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NEOTROPICAL MICROLEPIDOPTERA XXIII. FIRST REPORT OF THE FAMILY ERIOCOTTIDAE FROM THE NEW WORLD, WITH DESCRIPTIONS OF NEW TAXA

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Abstract.—*Crepidochares subtigrina* Meyrick from Brazil is redescribed and transferred to Eriocottidae. Formerly this monotypic genus and species had been included in Tineidae. In addition, four new species of ***Crepidochares***, ***C. aridula*** and ***C. austrina*** from Chile, ***C. colombiae*** from Colombia, and ***C. neblinae*** from Venezuela are described for the first time. The discovery of these taxa marks the first record of the primitive tineoid family Eriocottidae for the New World. Supplemented by numerous illustrations, the morphology of these and related Old World taxa are summarized.

Key Words: Lepidoptera, Eriocottidae, *Crepidochares*, biogeography

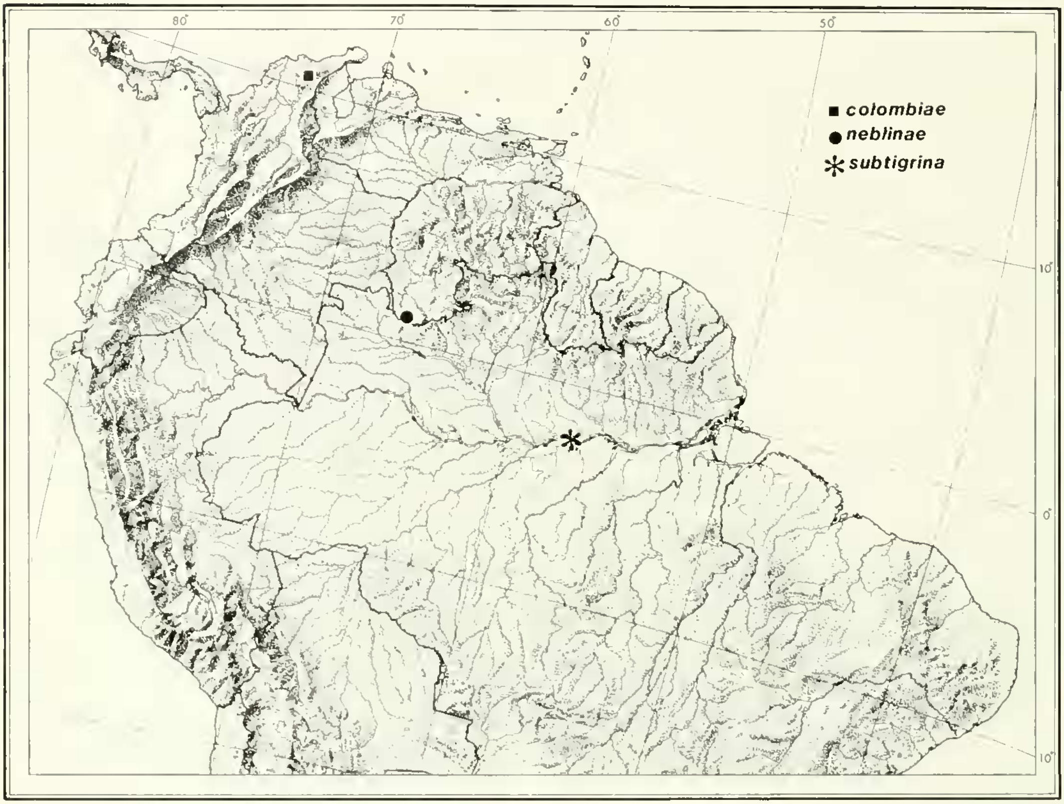
Recent investigations on the tineoid complex by the author together with an earlier study by Nielsen (1978) have shown the predominantly Old World family Eriocottidae to be among the most ancient of the ditrysian Lepidoptera. Because the Eriocottidae are the only ditrysian moths known to possess microtrichia randomly scattered over all wing surfaces, I consider this family to be the most primitive member of the Tineoidea. More importantly, this implies that among the extant Lepidoptera, they most resemble the stem ancestor of the Ditrysia.

Prior to this paper, no Eriocottidae were reported to occur in the New World. An eriocottid, *Crepidochares subtigrina*, was previously described by Meyrick (1922) from the Amazon, but this species had been regarded as a tineid. Fieldwork in southern Chile by the author, R. E. Brown, O. Karsholt, and E. S. Nielsen in 1981 resulted in collections of two new species. A recent multidisciplinary biological survey of Cerro de la Neblina in Venezuela produced another undescribed species. The latter appears to be a sister species of yet another new montane species from Sierra del Libano, Colombia, thus bringing the total species of Eriocottidae known for South America to five. To supplement the descriptions of the new American taxa, a brief review of the biology and morphology of the family is provided.

Depositions of specimens referred to in this paper are: ANIC for Austalian National Insect Collection, CSIRO, Canberra, Australia; BMNH, British Museum (Natural History), London, England; NHNS, Museo Nacional de Historia Natural, Santiago, Chile; USNM, National Museum of Natural History (formerly the United States National Museum), Smithsonian Institution, Washington, D.C.; UCVM, Universidad Central de Venezuela, Maracay, Venezuela; and ZMUC, Zoologisk Museum, Universitets Kobenhaven, Copenhagen, Denmark.

Biology

Distribution.—Prior to this report, the Eriocottidae as reconstituted by Nielsen (1978), were known to occur only in the Old



Map 1. Distibution of *Crepidochares* in northern South America.

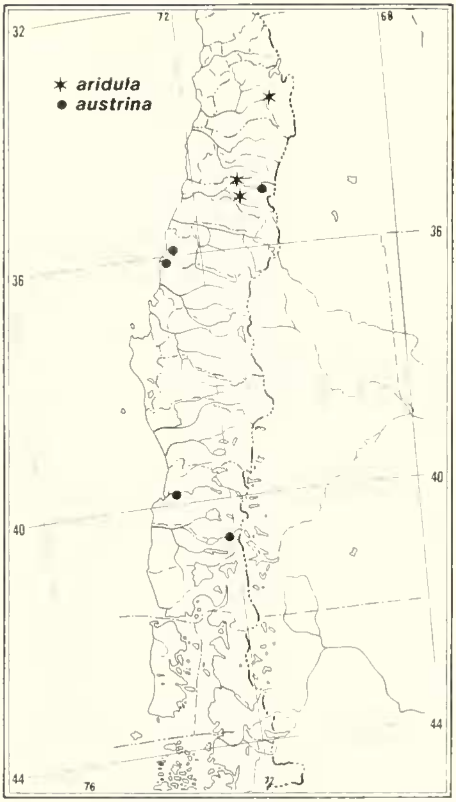
World. The genus *Eriocottis* ranges from southern Europe (Spain, Italy), northern Africa (Algeria), southern USSR, Asia Minor to Taiwan. I have examined the Taiwanese species, *Eriocottis flavicephalana* Issiki (Figs. 8, 115–119), and found it to agree in all respects to *E. fuscanella* Zeller, with the notable exception that the maxillary palpi are five segmented and the ocelli are reduced (thus agreeing with Issiki's (1930) original description). Another recognized genus of the subfamily Eriocottinae, *Deuterotinea*, is believed to be less widely distributed and confined largely to southern Europe and Asia Minor, from Spain eastward to Syria, Israel, Iraq and southern USSR. A single genus and species of Eriocottinae, *Eucryptogona trichobathra* Lower, occurs in New South Wales, Australia (Nielsen, in litt.).

In the New World, Eriocottidae are restricted to South America where two genera are recognized, both allied to *Eriocottis*. Thus far, most of the South American species have been found only in temperate forests or high elevations (Maps 1, 2). *Crepidochares subtigrina*, however, was collected at Parintins along the Amazon River, which suggests the existence of more species through the vast neotropical lowlands. In 1981 I collected two, very distinct species of Eriocottinae in two different biotic regions of Chile (Map 2). *Crepidochares aridula*, new species, was found only in the drier, more northern, Central Valley and environs, whereas *Crepidochares austrina*, new species, was collected at several localities in the wetter, *Nothofagus* dominant, Valdivian forests to the south (see Davis, 1986, Map 2, for limits of biotic regions). At approximately the same time, Nielsen and Karsholt collected *C. austrina* near Valdivia and Anticura, Chile.

Compsoctena, the largest genus and sole representative of the Old World subfamily Compsoctenidae, appears the most diversified through the Ethiopian Region (sub-Saharan Africa), where a majority of the known species occur, with numerous species also reported from India to mainland China and Taiwan and through portions of Indonesia. As shown by Dierl (1970), most of the known species of *Compsoctena* were proposed in other genera, often in *Melasina* or in genera now synonymized under *Compsoctena*. Several of these species are yet to be studied and still reside in their original genus. One such species, *Alavona thaitesii* Walsingham, has been examined in this study and transferred to *Compsoctena*.

Life history.—As is true for most families of moths, one of the most pressing needs for fieldwork among the Eriocottidae is for studies on life history and the immature stages. As pointed out by Nielsen (1978), little is known of their biology. Apparently few members of Eriocottidae have been reared, and their larval habits have largely been speculated (e.g. possibly feeding in decayed wood, leaves, or as stemborers). Adults appear to be univoltine and are active in the spring, both in the northern and southern hemispheres. Adult females of the middle eastern, steppe inhabiting *Deuterotinea* are wingless. Their larvae are detritophagous and construct silken tunnels often with ventilation tubes amongst grass litter (Zagulayev 1973, 1988). All specimens of *Crepidochares* collected by me were taken in ultraviolet light traps. The general structure of their highly extensible ovipositors indicates that the eggs are inserted into crevices within the host substrate.

Only slightly more is known about the habits of Compsocteninae. Dierl (1970) provides some evidence that the larvae live underground in silk and earthern tubes, or (as may be true for *Compsoctena reductella* (Walker)) bore into decaying plants such as *Artemisia* and *Rubus*.



Map 2. Distribution of *Crepidochares* in Chile.

MORPHOLOGY

The major morphological features of Eriocottidae, as they relate to systematics, have been summarized by Dierl (1970) and Nielsen (1978). As discussed by these authors, the principal synapomorphy of the family is the presence of a fourth pair of short, anterior apophyses located dorsally within the eighth segment of the female abdomen. In the subfamily Eriocottinae these are mostly fused in an X-shaped configuration (Figs. 121, 127, 130). The dorsal anterior apophyses may be either X-shaped or separate in *Compsoctena*. The new Chilean species, *Crepidochares aridula*, is unique in possessing a fifth pair of ventral apophyses (Fig. 130) within the eighth segment in addition to the fourth, X-shaped, dorsal pair. No other species of Lepidoptera is known to have developed this many pairs of abdominal apophyses.

The Compsocteninae are easily distinguished from Eriocottinae in being generally larger, without ocelli, with greatly reduced, two segmented maxillary palpi and a minute haustellum (Figs. 20–21). Furthermore, the male antenna is shortly bipectinate in Compsocteninae, compared to simple in female *Compsoctena* and in both sexes of Eriocottinae. The antenna of male *Crepidochares subtigrina* is unusual in possessing two ventral pairs of short tubercles bearing elongate sensilla chaetica (Figs. 58–60). This relatively aberrant species also has lost the ocelli, and possesses reduced, three segmented maxillary palpi and porrect labial palpi (Figs. 14, 15), similar to the Australian *Eucryptogona trichobathra*. According to Nielsen (in litt.), the latter differs from *Crepidochares subtigrina* in possessing more slender wings, flagellomeres without lobes, and male valvae more similar to *Eriocottis*. Although Nielsen described the antennal pecten as absent in *Eriocottis*, I have found it present in all genera, although sometimes less distinct in *Compsoctena*. The presence of an antennal pecten is the plesiomorphic condition in Tineoidea as well as the non-ditrysian moths.

The wings of Eriocottidae are unique among the ditrysian moths in retaining microtrichia randomly scattered over all wing surfaces. This resembles the plesiomorphic condition present in nearly all non-ditrysian families. In Eriocottidae the microtrichia are relatively short and sparsely distributed (Figs. 26, 27, 44, 48–50, 64, 70, 72), with some variation to be noted. In at least one species, *Eriocottis fuscanella* Zeller, microtrichia are largely absent from the dorsal surface of the hindwing and restricted mainly to the wing base. Microtrichia have been lost over nearly all of the wing surfaces in all other Ditrysia, with the notable exception of the tineid genus *Eudarcia*, where they are absent only over the dorsal surface of the forewings. The possibility exists for microtrichia to be even more developed in other Tineidae not yet examined. If such a condition were found, then this would necessitate a re-evaluation of the supposed basal position of the Eriocottidae among the Ditrysia.

The male retinaculum was similar in all genera examined in consisting of an elongate, flaplike fold from the ventral costal margin and extending over the base of Sc (Figs. 24, 46, 47, 66–68). The outer margin of the retinaculum in *Crepidochares aridula* (Figs. 46, 47) appears more revolute than in *Eriocottis* or *Compsoctena*. In addition to sharing a similar, plesiomorphic retention of wing microtrichia, *Eudarcia* also possesses a male retinaculum similar to that of Eriocottidae. The retinacula of 7 other tineid genera examined, representing major subfamilies, were found to resemble the more typical ditrysian type (Davis, in press) consisting of a slender cuticular lobe arising from the underside of the subcostal vein. Although the male retinacular lobe arises slightly anterior to Sc in other tineoids and apparently in most ditrysian families, in some genera (e.g., *Atteva*) it originates on Sc as in the Tineidae examined. The curled apex of the lobe forms a short tube for firmly clasping the male frenulum. As is true in the case with microtrichia, too few tineid genera have been examined to determine the systematic significance between the subcostal costal fold (*Eudarcia*, Eriocottidae) and the curled subcostal lobe types (most Tineoidea and higher Ditrysia). Both types of male retinacula occur within the subdivision Monotrysia, as well as within a single family (Palaephatidae, Davis 1986, Psychidae). Studies to date indicate the subcostal costal fold type to represent the plesiomorphic state. Although *Eudarcia* displays certain plesiomorphic similarities to Eriocottidae, no female *Endarcia* examined to date has been observed to possess a fourth pair of abdominal apophyses. Consequently, this genus has not been included within Eriocottidae.

The mesofurcasterna of Eriocottidae are similiar in possessing relatively broad, stout, secondary arms (Figs. 88, 92). The apices of the secondary arms differ in *Compsoctena* in having the lateral branch reduced to a small tubercule with an attached tendon (Fig. 92) and in the greater elongation of the mesal branch. The metafurcasterna of the various genera are also of similar morphology, with the furcal apophyses of *Compsoctena* more attenuated (Figs. 93, 94). The apices of the metafurcal apophyses of *Crepidochares aridula* and *C. austrina* are truncate, with those of other *Crepidochares* and *Eriocottis* being somewhat intermediate in development (Fig. 91).

If the examples studied are typical of their respective subfamilies, then the Eriocottinae and Compsocteninae may also differ in leg structure. The pretarsal unguitractor plates of *Crepidochares neblinae* and *C. aridula* are less developed with only two to three ranks of scutes per transverse row (Figs. 33, 57). As is typically the condition in large moths, the unguitractor plate of *Compsoctena thwaitesii* (Walsingham), new combination, is larger and with a much greater number of scutes (8 to 12 ranks, Fig. 75). Apparently what often occurs in this, as well as in other families I have examined, is that as the plate enlarges or decreases with body size, the relative size of the scutes does not change proportionally but individual scutes are added or lost in number to cover the appropriate area. A more significant difference between the two groups may involve the epiphysis, which is lost in some species (Nielsen 1978). The epiphysis of *Crepidochares* (Figs. 29–31, 52–55), and *Eriocottis* are of the standard form, with a comb (or pecten) of stout spines along the inner, cleaning edge and covered elsewhere with tightly appressed, imbricated, scale-like spines. In *Compsoctena thwaitesii* (Figs. 78–81) the epiphysis is more elongate and more specialized in lacking both pecten and imbricated spines. The stiff, tibial scales normally opposite an epiphysis also appear to be lacking in this species. The apex is slightly broadened and, similar to all other surfaces of the epiphysis, densely covered with deciduous scales. The only spines present are minute in size and scattered along the anterior surface (Fig. 81).

The two principal morphological systems probably used most frequently in Lepidoptera systematics, wing venation and male genitalia, appear relatively conservative among Eriocottidae. Wing venation varies little among all known genera, with no stalked or branched veins present and with R5 terminating at or slightly above the apex of the forewing. The male genitalia appear rather uniform within genera (as is typical for another tineoid family, Psychidae), with a prominent spinose lobe arising from either the ventral margin of the cucullus in the Old World genera (and in many Psychidae), or from the distal margin of the sacculus in the only recognized Neotropical genus, *Crepidochares*. The male genitalia of the latter exhibit greater morphological differences between species than is generally true for other eriocottid genera, particularly with regard to the development of the spinose, saccular lobe.

Crepidochares Meyrick

Crepidochares Meyrick, 1922: 601.—Fletcher, 1929: 58.—Clarke, 1970: 36.—Davis, 1984: 4, 21.

Type species.—*Crepidochares subtigrina* Meyrick, 1922; by monotypy.

Adult.—Small, pale yellowish to brown moths with forewings variably and often indistinctly banded with brown to fuscous. Ocellus usually present; maxillary palpus 3–

5 segmented; labial palpus porrect or upcurved. Male valva with a spinose process from sacculus. Female genitalia with usually four pairs of apophyses or five pairs in *C. aridula*. Length of forewing 4.6–9.5 mm.

Head: Vestiture rough, consisting of long piliform scales with simple, acute apices. Antenna usually filiform, with two pairs of ventral tubercles per segment in *C. subtigrina*, 0.4–0.7 the length of forewing, 31–40 segmented; scape with pecten of 6–10 piliform scales; flagellum usually with dorsal half covered with moderately broad scales, ventral half naked except for dense sensilla, completely encircled by scales in *C. neblinae*. Eye round, relatively well developed; interocular index ranging from 0.63–1.1; eye index 0.73–0.92. Ocellus usually present, absent in *C. subtigrina*. Chaetosemata absent. Pilifers (Fig. 37) well developed, bearing 7–8 elongate bristles directed mesally and nearly touching at midline. Mandible either vestigial or absent. Maxillary palpus usually 5-segmented and equalling or slightly longer but more slender than labial palpus and about half the length of haustellum; basal three segments the shortest and apical two the longest and approximately equal in length; maxillary palpus less than one fifth the length of labial palpus and composed of three short segments in *C. subtigrina*. Haustellum elongate, often twice the length of labial palpus; distal half to two thirds externally covered with short overlapping plates (Fig. 40). Labial palpus 3-segmented, moderately well developed, usually slightly upcurved (Fig. 13) with subapical sensory pit reduced (Figs. 42, 43); palpus larger, relatively smooth and porrect in *C. subtigrina* (Figs. 14, 15).

Thorax: Forewing moderately slender; length 3–3.6 the width. Radius 5-branched; all veins arising separate; R5 usually terminating just before apex, or at apex (in *C. subtigrina*); R1 arising usually from basal third of discal cell, or mesad (in *C. austrina*). Media 3-branched, all veins separate. Discal cell 0.55–0.63 the length of forewing. Accessory and intercalary cells usually developed. 1A and 2A separate at basal 0.3–0.4, forming an anal loop. Retinaculum of male composed of a broad fold arising immediately under costal margin and partially extending over base of Sc (Figs. 24, 46, 47); retinacular fold absent in female, instead retinaculum consisting of a row of elongate, piliform scales from base of Sc. Microtrichia generally distributed over all wing surfaces in *C. neblinae*, most concentrated over basal half of discal cell or underside of forewing in *C. aridula*, not examined closely in other species. Hindwing nearly as broad as forewing, length 2.2–2.8 the width. All veins arising separate; base of M usually forked within cell, rarely entire. Frenulum single in male (Fig. 51), 2–4 bristles in female. Foreleg with pectinated epiphysis (Figs. 29–31, 52–55) approximately 0.4 the length of tibia; outer surface covered with flat, moderately broad, imbricate spines (Figs. 31, 55). Midleg with an elongate, apical pair of tibial spurs of unequal length. Hindleg with two pairs of elongate tibial spurs of unequal length, one pair apical and other pair arising from outer ⅗; basal tarsomere with row of 6–8 small spinose setae and apices of all tarsomeres with 3 small setae. Prothorax (Fig. 86) with sternum moderately developed, lightly sclerotized on either side of basisternum; patagium greatly reduced, nearly touching opposite member at dorsal midline; scutum greatly reduced, triangular, tapering to form slender, poorly differentiated scutellum. Mesothorax (Fig. 88) with secondary arms of furcasternum relatively broad and stout, abruptly terminating in a pair of short, acute processes; forked ends of secondary arms widely spaced, a distance about equal to width of mesothoracic phragma. Metafurcasternum (Fig. 90) with a pair of stout, either truncate or attenuate furcal arms, each with a single tendon directed anteriorly from anterior apex.

Abdomen: Relatively simple, without specialized process, coremata, or corethrogyne. Second sternum of tineoid type, with a pair of slender apodemes projecting anteriorly from sternum; a minute tubercule and tubercular plate immediately laterad to base of apodeme.

Male genitalia: Uncus divided into two short, acute lobes, otherwise not differentiated from relatively broad, hoodlike tegumen. Vinculum moderately short, either V-shaped or attenuated into a distinct saccus. A more or less sclerotized, plate like subscaphium sometimes present which is fused medially to slender U- or V-shaped gnathos. Juxta and socii absent. Valva with basal half (sacculus) moderately broad, either equal to or twice the width of usually more slender distal half; (cucullus); ventral margin of cucullus without prominent spinose lobe (pollex) but with a variably developed spinose lobe from distal margin of saccular lobe; lobe largest in *C. neblinae*, most reduced in *C. aridula*. Aedoeagus relatively slender, short, without cornuti; phallobase well developed, nearly twice the length of aedoeagus and enclosing distal part of ejaculatory duct.

Female genitalia: Ovipositor greatly elongated, telescoping, with usually four or rarely five pairs of rodlike apophyses; posterior pair the longest, extending from A7 to caudal apex of abdomen (A10); a much shorter ventral pair located entirely within A10; anterior pair elongate and extending caudad into A8; a single pair of shorter, often mostly fused, "X-shaped" dorsal apophyses located entirely within A8, and an additional short, separated pair located within A8 of *C. aridula*; apex of ovipositor soft, trilobed (one lobe minute), and setose. Ductus bursae highly variable, extremely short and broad in *C. austrina* to long and slender in *C. neblinae*; ductus seminalis usually joined midway along ductus bursae. Corpus bursae moderately enlarged, usually with a single, variably shaped signum; signum absent in *C. aridula*.

Discussion.—A single synapomorphy—the presence of a slender, spinelike process arising from the saccular lobe at the base of the male valva—distinguishes this South American genus from its Old World sister-group, *Eriocottis*. The type species of *Crepidochares*, however, exhibits several apomorphies that strongly suggest further division within the New World species. Major among these features which sets *C. subtigrina* apart are the loss of ocelli, fasciculate and pedicellate antennal sensilla, reduction of the maxillary palpi to three short segments, and the relatively smooth and porrect labial palpi. Because no synapomorphy is known to link the other four species, all have been retained within *Crepidochares*.

KEY TO THE SPECIES OF *CREPIDOCHARES*

1. Ocellus absent. Maxillary palpus reduced, three segmented. Labial palpus porrect .... *C. subtigrina* Meyrick
– Ocellus present. Maxillary palpus five segmented. Labial palpus disinctly upcurved ... 2
2. Male genitalia with saccular process minute, less than one third the width of valva (Figs. 106, 110). Distribution southern Chile ... 3
– Male genitalia with saccular spine elongate, more than half the width of valva (Figs. 97, 103). Distribution northern South America ... 4
3. Forewing with R1 arising from middle of discal cell. Male genitalia (Fig. 84) with subscaphium relatively broad and elongate, arising from gnathos near insertion of valva; valva with a small spinose process arising from saccular lobe free of valva. Female genitalia (Figs. 126, 127) with four pairs of apophyses; signum present .... *C. austrina* Davis, new species
– Forewing with R1 arising from basal third of discal cell. Male genitalia (Fig. 108) with subscaphium reduced, arising from gnathos above insertion of valva; valva with minute spinose process not projecting beyond margin of valva. Female genitalia (Fig. 130) with five pairs of apophyses; signum absent .... *C. aridula* Davis, new species
4. Male with length of saccular process equalling width of valva and terminating in a broad truncate spine (Fig. 97); apical half of valva (cucullus) broader than basal half. Female with fourth pair of apophyses within A8 mostly fused and X-shaped (Fig. 121) .... *C. neblinae*, new species
– Male with length of saccular process less than width of valva and terminating in a slender, minute spine (Fig. 103); apical half of valva

more slender than basal half. Female with fourth pair of apophyses convergent but not fused (Fig. 124) .... *C. colombiae*, new species

Crepidochares neblinae Davis, New Species

Figs. 1, 16, 17, 22–33, 82, 95–99, 120–122; Map 1

Adult (Fig. 1).—Length of forewing: ♂, 8 mm; ♀, 8.2–8.6 mm. A small moth with grayish forewings marked by three more or less distinct, fuscous cross bands and scattered spots; ocellus present; labial palpus slightly upcurved; male valva with a prominent, blunt tipped, spinose lobe arising from apex of sacculus; female with X-shaped apophyses within eighth abdominal segment.

Head: Vestiture mixed, mostly fuscous near middle bordered by tufts of cream to buff scales laterally and at lower part of frons. Ocellus well developed. Antenna 0.55–0.6 the length of forewing, 39–40 segmented; scape light to medium brown, with a pecten consisting of 8–10 dark brown piliform scales; scales not forming an eyecap; flagellum alternately ringed with dark fuscous and light brown; scales encircling each segment with basal ring fuscous; flagellomeres smooth except for a minute, apical middorsal process (Fig. 23); sensilla relatively short and not fasiculate nor born on tubercules (Figs. 22, 23). Maxillary palpus elongate, 5-segmented; vestiture variable, light to dark brown. Labial palpus slightly upcurved, mostly dark brown to fuscous laterally and pale buff to cream mesally, with apices of second and third segments pale buff; numerous cream to fuscous bristles clustered near apex of second segment.

Thorax: Pronotum light gray strongly irrorated with fuscous tipped scales; tegula mostly brownish fuscous. Venter grayish white to cream. Forewing light gray heavily irorrated with fuscous, most scales with dark fuscous tips; 3 more or less distinct, irregular bands of dark fuscous traversing outer half of wing; subapical band parallel to termen and divergent from medial band; small patches of cream scales scattered mostly along costa and termen and extending out into fringe. Hindwing uniformly gray. Female frenulum consisting of two closely set bristles. Fore- and midlegs gray to dark fuscous dorsally, buff to cream ventrally, generally darker on tibia and tarsus with conspicuous buff apices to each segment and a median ring on tibia. Hindleg much paler, generally gray with tarsomeres darker and indistinctly ringed with cream.

Abdomen: Dark to light gray dorsally, paler ventrally.

Male genitalia: As shown in Figs. 95–99. Uncus lobes reduced. Subscaphium poorly sclerotized, indistinct. Gnathos slender, forming a deep U. Vinculum abruptly constricted to form a moderately elongate, slender saccus. Transtilla relatively broad, lightly sclerotized and highly arched. Valva moderately broad; cucullus rounded; sacculus with a prominent, elongate spinose lobe arising distally; a single, broad, short, truncate spine arising from apex of lobe. Aedoeagus moderately slender, nearly as long as valva, with a small bulbous lobe at base.

Female genitalia: As shown in Figs. 120–122. Four pairs of apophyses present, including moderately long anterior and extremely long posterior pairs, a short ventral pair within A10, and a short dorsal pair within A8 which are fused approximately half their length along middle. Ductus bursae elongate (about equal to length of posterior apophyses), moderately slender, with ductus seminalis joined slightly anterior to middle. Corpus bursae moderately enlarged, with a single, broad, diamond-shaped signum bearing a pair of short, caudally directed spines (Fig. 122).

Holotype.—Female. Camp VII, 1850 m, Cerro de la Neblina, Territorio Federal Amazonas, Venezuela; 2–4 Dec 1984, R. L. Brown (USNM).

Paratypes.—VENEZUELA: Same data as holotype; 2 ♂, 3 ♀, slides USNM 23672, 29987, 30347, 30420. Paratypes deposited in UCVM and USNM.

Host.—Unknown.

Flight period.—December.

Distribution (Map 1).—Known only from one collecting site on Cerro de la Neblina, Venezuela, which is situated near the Brazilian border at 1850 meters and 0°51'N, 6°58'W.

Etymology.—The specific epithet is derived from the name of the general type locality, Cerro de la Neblina (Mountain of the Mist).

Discussion.—Both male and female genital morphology easily distinguishes this species. The spinose lobe of the male valva is the largest of the five currently recognized species of *Crepidochares*, with an apical spine which is not only the largest, but also the only one that is truncate.

Rather intensive collecting during the Cerro de la Neblina expeditions at the Amazonian basecamp site (130 m), did not reveal the presence of this species at lower elevations. Collections on the rather large and topographically diverse massif of Neblina itself were relatively sparse and undoubtedly inadequate for Lepidoptera. Only the earliest (December) collections at camp VII (1850 m) resulted in specimens of *C. neblinae*. All were attracted to ultraviolet lights.

Crepidochares colombiae **Davis, New Species**

Figs. 2, 100–103, 123–125; Map 1

Adult (Fig. 2).—Length of forewing: ♂, 9–9.5 mm; ♀, 11 mm. A small moth with light brown forewings heavily mottled with dark brown striae and bands; ocellus present; labial palpus slightly upcurved; male valva with long slender spinose lobe arising from apex of sacculus; female with fourth pair of dorsal apophyses converging caudally but not fused.

Head: Vestiture mostly brown, slightly paler and more buff near occiput. Ocellus well developed. Antenna 0.4–0.5 the length of forewing, 40 segmented; scape with 8–10 dark brown piliform scales forming distinct pecten; scales not forming an eyecap; scape and flagellum with dorsal half uniformly covered with dark brown scales, ventral half naked except for dense pubescence of sensilla. Maxillary palpus elongate, 5-segmented; vestiture light brown dorsally, dull white ventrally. Labial palpus uniformly brown laterally, dull white to pale buff mesally; dorsal apex of second segment with a tuft of brown bristles, a few scattered bristles also along dorsal margin; ventral margin rough, with numerous bristles.

Thorax: Pronotum uniformly dark brown. Venter white to pale buff. Forewing pale buff, heavily mottled with dark brown; three dark brown bands usually distinct across distal ⅔ of wing; basal two bands strongly oblique and parallel; distal band parallel to termen; all 3 bands sometimes coalescing to form a "W" shaped patten; a fine reticulate network of dark brown lines and spots scattered between bands and along costal margin; termen mostly dark brown interrupted with 3–4 light brown to buff spots. Hindwing uniformly dark gray. Female frenulum consisting of four bristles. Foreleg dark brown dorsally, light brown ventrally with apices of tarsal and tibial segments and middle of tibia ringed with buff. Midleg similarly marked but generally paler. Hindleg very pale, uniformly pale buff except for slight brownish banding on tarsomeres.

Abdomen: Dark brown dorsally, buff ventrally.

Male genitalia: As shown in Figs. 100–103. Uncus lobes slender, acute, and widely spaced. Subscaphium poorly sclerotized, indistinct. Gnathos indistinct, membranous. Vinculum constricted to form a short, slender saccus. Transtilla a slender arch between bases of valvae. Valva moderately broad, gradully narrowing to apex; an elongate, spinose process arising from apex of sacculus; apex of process with a slender spine. Aedoeagus moderately slender, slightly curved, especially at base, and approximately ⅔ the length of valva.

Female genitalia: As shown in Figs. 123–125. Four pairs of apophyses present, including moderately long anterior and extremely long posterior pairs, a short ventral pair within A10, and a short dorsal pair within A8 which converge at their caudal ends but do not fuse. Ductus bursae moderately long, approximately half the length of posterior appophyses, with ductus seminalis joined at middle. Corpus bursae greatly enlarged, with a single, highly irregular, transverse signum (Fig. 125).

Holotype.—Male. Sierra del Libano, 6000 ft. [1829 m], Colombia; May 1899, H. H. Smith, 68622, slide 19243 (BMNH).

Paratypes.—COLOMBIA: Same locality as holotype, 10♂, 1♀, nos. 68613–21, 68623–24, 68720–21; slides BMNH 19247, USNM 30423. Paratypes deposited in BMNH and USNM.

Host.—Unknown.

Flight period.—May.

Distribution (Map 1).—Known only from the type locality, Sierra del Libano, also known as El Libano, which according to Paynter and Traylor (1981) is a dense subtropical forest and a spur of the Cuchilla San Lorenzo on the southwestern Sierra Nevada de Santa Marta in Magdalena Province (ca. 11°10′N, 74°W).

Etymology.—The specific name is derived from the country of origin, Colombia.

Discussion.—This species is the largest and darkest in color within the genus. It is also the only species of *Crepidochares* (of which females are known) in which the dorsal apophyses (fourth pair) of the eighth abdominal segment do not fuse but remain separate, although strongly convergent. *Crepidochares colombiae* appears most allied to *C neblinae* on the basis of general morphology, particularly the well developed saccular process of the male.

Crepidochares austrina Davis, New Species

Figs. 3, 84, 104–107, 126–128; Map 2

Adult (Fig. 3).—Length of forewing: ♂, 4.6–6 mm; ♀, 5.8–6.1 mm. A small moth with buff to light brown forewings variably marked with reddish brown to dark fuscous spots and costal strigulae; male valva with a small spinose process arising from saccular lobe; female ovipositor with four pairs of apophyses.

Head: Vestiture pale grayish white to buff with a slight concentration of more brownish scales across upper frons between antennal bases. Antenna 0.6–0.7 the length of forewing, approximately 38 segmented; scape fuscous at base, pale buff apically; scales not forming an eyecap; pecten with 6–8 long light brown piliform scales; flagellum with ventral half naked and densely ciliate, dorsal half covered with alternating bands of pale buff and fuscous scales. Maxillary palpus pale buff. Labial palpus pale buff, lightly irrorated with fuscous on second segment, more heavily so on third; apex and outer side of second segment with 4–6 long, fuscous, bristlelike scales.

Thorax: Pronotum light bronzy brown, irrorated with darker and paler brownish scales. Forewing of similar color with a complex pattern of pale buff to reddish brown and dark fuscous scales; distal half of costa with an alternating pattern of about six buff strigulae interspersed by fuscous; oblique fuscous banding slightly evident but obscure due to rubbed condition of specimens. Hindwings uniformly shiny gray with an elongate fringe about ¾ the width of wing. Venter of thorax uniformly dull white to pale buff. Legs generally dark grayish fuscous dosally and whitish to buff ventrally, gradually becoming almost entirely whitish to buff on hindleg; tibia and tarsus of fore and midleg with grayish to fuscous banding.

Abdomen: Shiny grayish fuscous dorsally, pale buff ventrally.

Male genitalia: As shown in Figs. 104–

107. Uncus lobes moderately long and stout. Subscaphium relatively elongate and broad, approximately 0.5 the width of genital capsule, joined to arms of gnathos near insertion of valvae. Vinculum tapering gradually anteriorly, V-shaped. Valva with ventral margin deeply emarginate near middle, abruptly marking end of sacculus; a small spinose process arising from inner angle of saccular lobe; ventral margin along more narrow, distal half with 5–6 large spinose setae; basal apophysis of valva broadly triangular. Aedoeagus without cornuti, approximately ¾ the length of valva.

Female genitalia: As shown in Figs. 126–128. Four pairs of apophyses present with only a single, dorsal pair in A8, approximately 65% fused. Ductus bursae short, broad, barely perceptible from moderately enlarged corpus bursae; signum consisting of a single cluster of minute, stout spines (Fig. 128).

Holotype.—Female. Anticura, 350 m, Parque Nacional Puyehue, Osorno Prov., Chile; 18 Nov. 1981, Nielsen and Karsholt (ZMHU).

Paratypes.—CHILE: Maule Prov: Paso Garcia, 300 m, ca. 23 km NW Cauquenes: 1 ♂, 29–30 Nov. 1981, D. R. Davis, slide USNM 29581. Rio Teno, 800 m, ca. 40 km E. Curico: 1 ♂, 25–27 Nov. 1981, D. R. Davis, slide USNM 29583. Ñuble Prov: Alto Tregualemu, 500 m, ca. 20 km SE Chovellen: 1 ♂, 1–3 Dec. 1981, D. R. Davis, slide USNM 29580. Osorno Prov: Same data as holotype, 1 ♂, slide DRD 3708; 1 ♂, 17 Dec. 1981, Nielsen and Karsholt. Valdivia Prov: Rincon de la Piedra, 180 m, 20 km S. Valdivia: 1 ♂, 5 ♀, 15 Nov. 1981, Nielsen and Karsholt, slides USNM 23599, 29504. Paratypes deposited in ANIC, BMNH, USNM, and ZMHU.

Host.—Unknown.

Flight period.—November 15 to December 17, univoltine.

Distribution.—This species occurs further south than does *aridula*, and is found within the principal range of *Nothofagus*. It has been found as far north as the Rio Teno, which approximately marks the northern limits of the Northern Valdivian Forest zone, and extends as far south as Valdivia and Osorno Provinces, which are located well within the more southern Valdivian Forest zone.

Etymology.—The specific name is derived from the latin *austrinus* (southern) as suggested by its more southern distribution when compared to the only other Chilean eriocottid, *aridula*.

Discussion.—*Crepidochares austrina* is easily distinguished from the other members of *Crepidochares* by major differences in venation and both male and female genitalia, as summarized in the key to species. The first radial vein in the forewing is characteristic in arising more distad from the middle of the discal cell. In contrast to *C. aridula*, the ovipositor of *C. austrina* possesses the normal (for Eriocottidae) four pairs of apophyses, including a short, mostly fused dorsal pair in A8. Present distributional data suggest that it may also be more adapted to the wetter Valdivian forests of southern Chile.

Crepidochares aridula Davis, New Species

Figs. 4, 5, 18, 19, 34–57, 85–90, 108–112, 129, 130; Map 2

Adult (Figs. 4, 5).—Length of forewing: ♂, 5.2–6.1 mm; ♀, 4.5 mm. A small moth with light gray forewings variably marked with reddish brown to fuscous spots and oblique bands; male valva relatively simple, with a minute spinose lobe from distal end of sacculus; female ovipositor with five pairs of apophyses.

Head: Vestiture pale grayish white to buff with a small lateral tuft of darker scales arising immediately posterior to ocellus and another near front rim of eye. Antenna 0.65 the length of forewing, approximately 31 segmented; scape pale gray irrorated with brown; scales not forming an eyecap; pecten with 6–8 long brownish piliform scales; flagellum with ventral half naked and densely ciliate, dorsal half covered with alternating bands of grayish white and fuscous scales. Maxillary palpus grayish white to buff. Labial palpus light brown over basal segments; apical segment mostly covered with divergent, pale whitish buff scales; a few bristle-like brown scales arising from apex of second segment.

Thorax: Pronotum pale buff to grayish white, irrorated with darker reddish brown to fuscous scales. Forewing of similar color with a distinct pattern of oblique bands (Figs. 1–2) evident on fresh specimens. Hindwing uniformly pale gray with elongate fringe nearly equalling width of hindwing. Venter of thorax grayish white. Legs mostly dull white ventrally, brown dorsally with two broad fuscous bands usually evident on tibia; base of all tarsal segments dark fuscous.

Abdomen: Uniformly shiny pale buff to grayish white.

Male genitalia: As shown in Figs. 108–112. Uncus lobes slender, short. Subscaphium moderately slender and short, joined to arms of gnathos well above insertion of valvae. Vinculum narrowing abruptly anteriorly to form a moderately broad saccus. Valva relatively simple, ventral margin with saccular lobe slightly developed and bearing a single minute spinose lobe; basal saccular area approximately twice the width of distal half; basal apophysis of valva elongate and slender. Aedoeagus simple, without cornuti, approximately equalling valva in length.

Female genitalia: As shown in Figs. 129, 130. Five pairs of apophyses present, including elongate anterior and posterior apophyses, a short ventral pair within A10, and two pairs of dorsal apophyses within A8, one pair of which are fused about 70% their length. Ductus bursae extremely slender. Corpus bursae moderately enlarged, without signum.

Holotype.—Male. Rio Colorado, ca. 40 km SE Santiago, 1100 m, Metropolitan Region, Chile; 29–31 Oct. 1981, Don and Mignon Davis, USNM.

Paratypes.—CHILE: Same data as holotype; 7 ♂, slides USNM 29503, 29587, 22140. Curico Prov. Potrero Grande, 35 km SE Curico, 35°12.5'S, 71°W: 1 ♂, 6 Dec. 1982, R. L. Brown, USNM slide 29584. 10 km NW Rauco, 34°52'S, 71°21'W: 1 ♀, 2 Dec. 1982, USNM slide 29582. Paratypes deposited in ANIC, MHNS, and USNM.

Host.–Unknown.

Flight period.—October 29 to December 6; univoltine.

Distribution.—Known only from the Central Valley Biotic Province and lower elevations of the adjacent Central Andean Cordillera Province of central Chile. The forests of these areas are relatively dry and are situated just north of the principal northern limits of *Nothofagus*.

Etymology.—The specific name is derived from the Latin *aridulus* (diminutive of dry) in reference to the more xeric habitat of this species.

Discussion.—*Crepidochares aridula* differs considerably from the only other Chilean eriocottid, *C. austrina*, by major differences in venation and the genitalia of both sexes, as summarized in the key to species. The forewing venation of *C. aridula* agrees more with the other species of *Crepidochares* and *Eriocottis* in possessing a more basal origin for R1. Of the five recognized species of New World Eriocottidae, the male valva of *C. aridula* has the most reduced saccular spine. The female ovipositor is unique among Lepidoptera by the presence of five pairs of apophyses. The extra fifth set is believed to be derived from the caudal ends of the anterior apophyses. In addition, *C. aridula* exhibits a generally paler color than *C. austrina*. Its range may also be confined to the drier, more northern non-*Nothofagus* forests of central Chile. All specimens were collected in UV light traps.

Because the sole female specimen of this species has not been collected in close association with any males and is slightly smaller in size with more distinctly marked forewings, its identity remains somewhat in doubt. Association of males and females needs confirmation in particular because the most unusual apomorphy (i.e. the fifth pair of apophyses) of the species occurs only in the female.

Crepidochares subtigrina Meyrick
Figs. 6, 58–63, 83, 113, 114; Map 1

Crepidochares subtigrina Meyrick, 1922: 601.—Fletcher, 1929: 58.—Clarke, 1955: 298; 1970: 36.—Davis, 1984: 21.

Adult (Fig. 6).—Length of forewing: ♂, 7.8 mm. A small moth with pale yellowish forewings irregularly marked with slightly darker, more brownish transverse bands and spots; ocellus absent; labial palpus porrect; male valva with a stout spinose lobe arising from apex of sacculus; female unknown.

Head: Vestiture pale cream to white. Ocellus absent. Antenna 0.7–0.8 the length of forewing, approximately 40 segmented; scape pale cream, with approximately 12 piliform cream colored scales forming a pecten; scales dorsad to pecten extending forward to form a broad eyecap; flagellum dorsally covered with pale cream scales; ventrally the flagellum is strongly ciliate with most sensilla clustered on two pairs of short pedicels (Figs. 58–60), with apical pair arising more approximate. Maxillary palpus greatly reduced, 3-segmented with apical segment slightly larger, covered with a few pale cream scales. Labial palpus pale buff to cream, irrorated with slightly darker tipped scales; vestiture broad near base, gradually tapering to apex; strongly porrect, completely smooth and without bristles.

Thorax: Pronotum cream, slightly darker and more brown over tegula. Venter cream. Forewing cream to pale yellow crossed by several, slightly darker yellow brown bands or strigulae, basal three slightly darker and most distinct; subapical two bands very indistinct and interrupted; apical band very pale but entire; fringe cream. Hindwing uniformly pale cream. Foreleg cream with darker brown suffusion dorsally over tibia and tarsus; hindleg uniformly pale cream.

Abdomen: Color not examined (on slide).

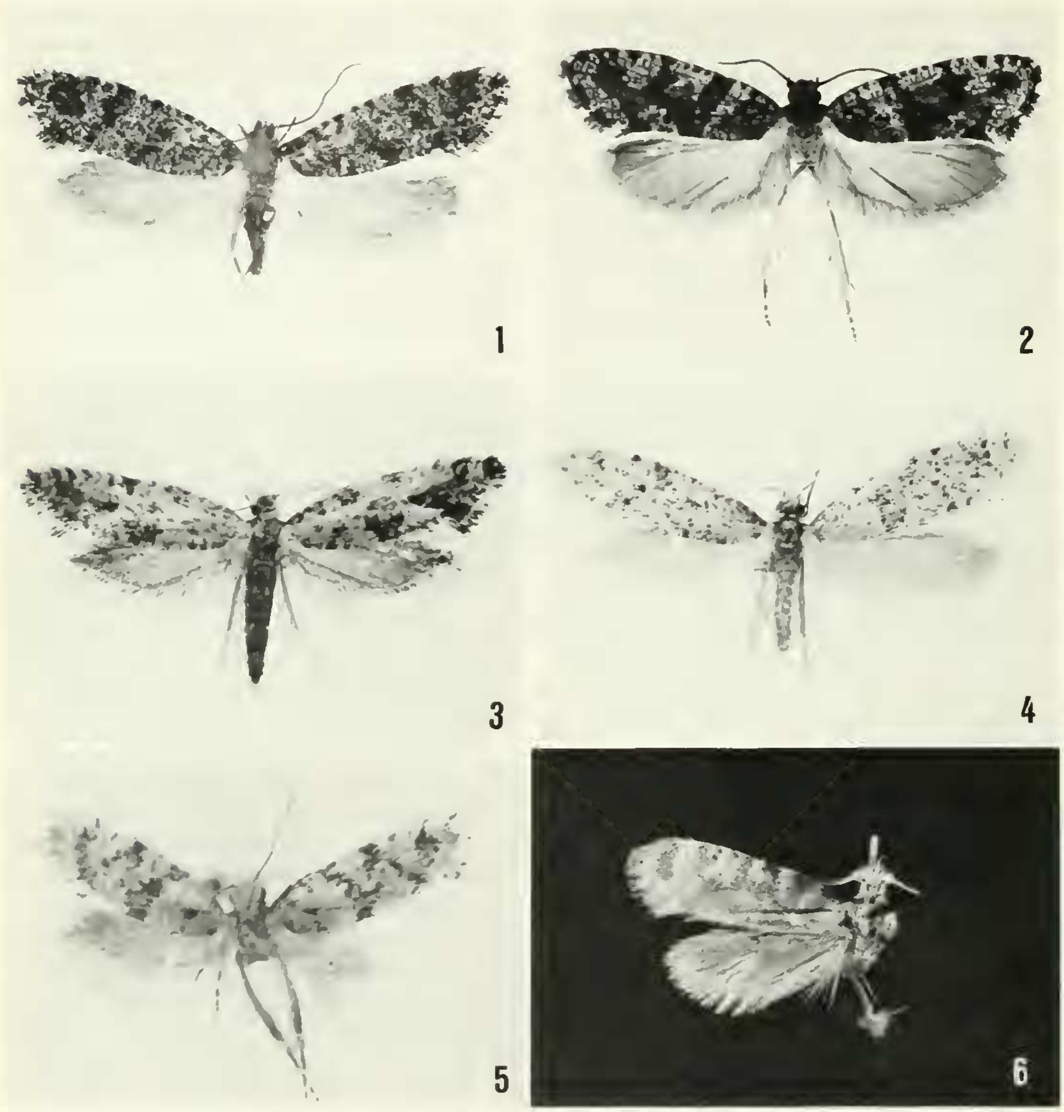
Male genitalia: As shown in Figs. 113, 114. Uncus lobes moderately long and stout. Subscaphium poorly sclerotized, indistinct. Gnathos slender, forming a deep V. Vinculum tapering anteriorly, with a slight constriction near base. Transtilla slender. Valva slender, with 3–4 stout, spinose setae arising near middle immediately distad to spinose lobe from sacculus. Aedoeagus moderately stout, approximately 0.6 the length of genital capsule, without cornuti.

Type.—Holotype, ♂; BMNH.

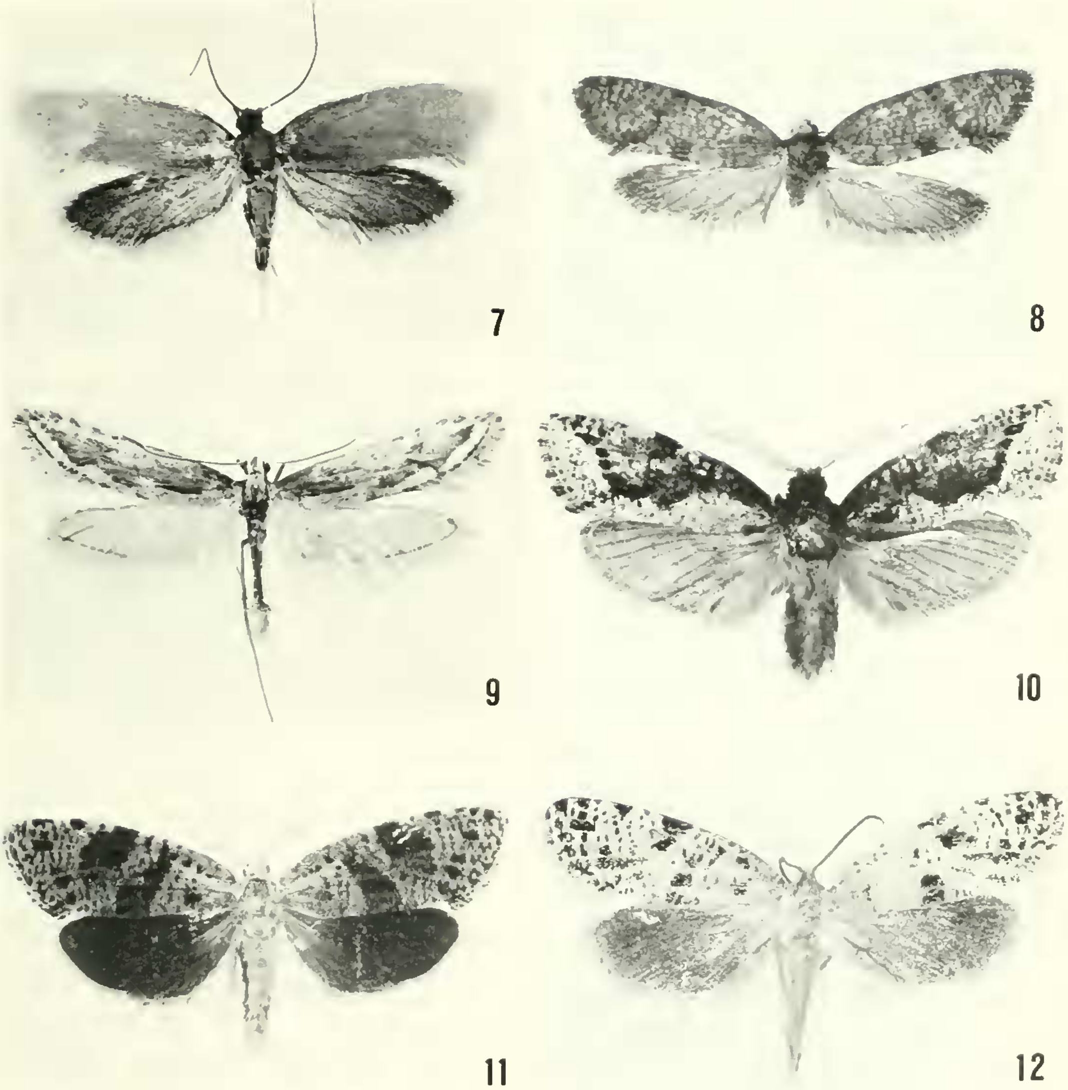
Distribution (Map 1).—Known only from the holotype, which was collected in October by Parish along the Amazon River at Parintins, Amazonas, Brazil.

Discussion.—Since its discovery, *Crepidochares subtigrina* has been consistently regarded as a member of the Tineidae. As stated in the key to species and elsewhere, numerous apomorphies distinguish this species, still represented by only the male holotype. The male genitalia, especially the prominent spinose process arising from the sacculus, clearly associates *C. subtigrina* with the other members of the genus. Although Meyrick describes the ocelli as "posterior," no ocelli were observed on the holotype.

In addition to its rather aberrant morphology, *C. subtigrina* is of further interest in being the only South American eriocottid discovered thus far from the lowland tropics. The other four species described herein are either from montane or southern temperate habitats.



Figs. 1–6. Adult Eriocottidae. 1, *Crepidochares neblinae* n. sp., female holotype, Venezuela (8.5 mm). 2, *Crepidochares colombiae* n. sp., male holotype, Colombia (9 mm). 3, *Crepidochares austrina* n. sp., male holotype, Chile (6 mm). 4, *Crepidochares aridula* n. sp., male holotype, Chile (5.8 mm). 5, *Crepidochares aridula* n. sp., female paratype, Chile (4.7 mm). 6, *Crepidochares subtigrina* Meyrick, male holotype, Brazil (7.8 mm). (Length of forewing in parentheses.)



Figs. 7–12. Adult Eriocottidae. 7, *Eriocottis fuscanella* Zeller, male [Europe] (8 mm). 8, *Eriocottis flavicephalana* Issiki, male holotype, Taiwan (8.5 mm). 9, *Deuterotinea casanella* (Eversmann), male [Europe] (10.2 mm). 10, *Compsoctena thwaitesii* (Walsingham), male, Sri Lanka (15.5 mm). 11, *Compsoctena aethalea* (Meyrick), male, India (14.8 mm). 12, *Compsoctena aethalea* (Meyrick), female, India (18 mm). (Length of forewing in parentheses.)

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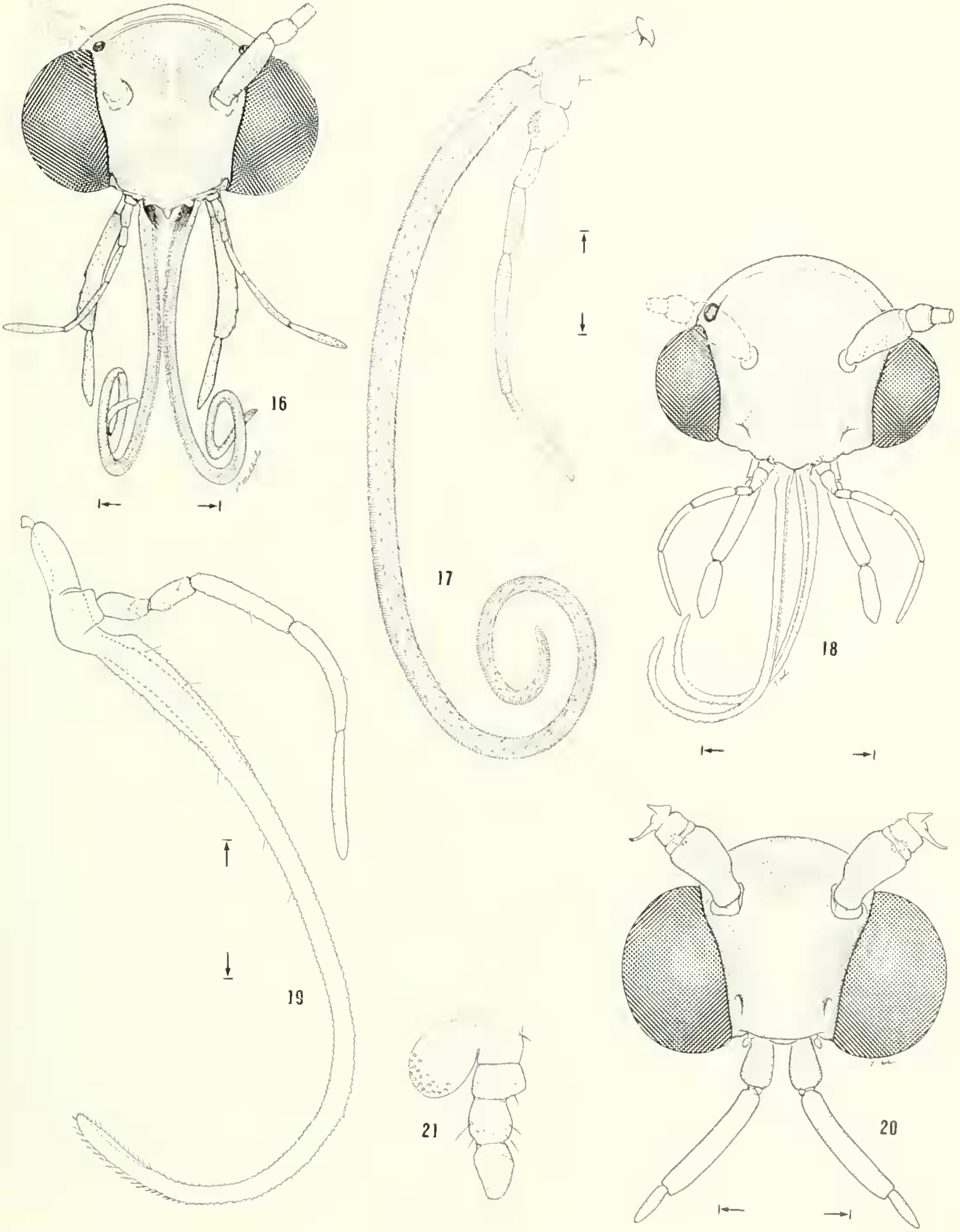
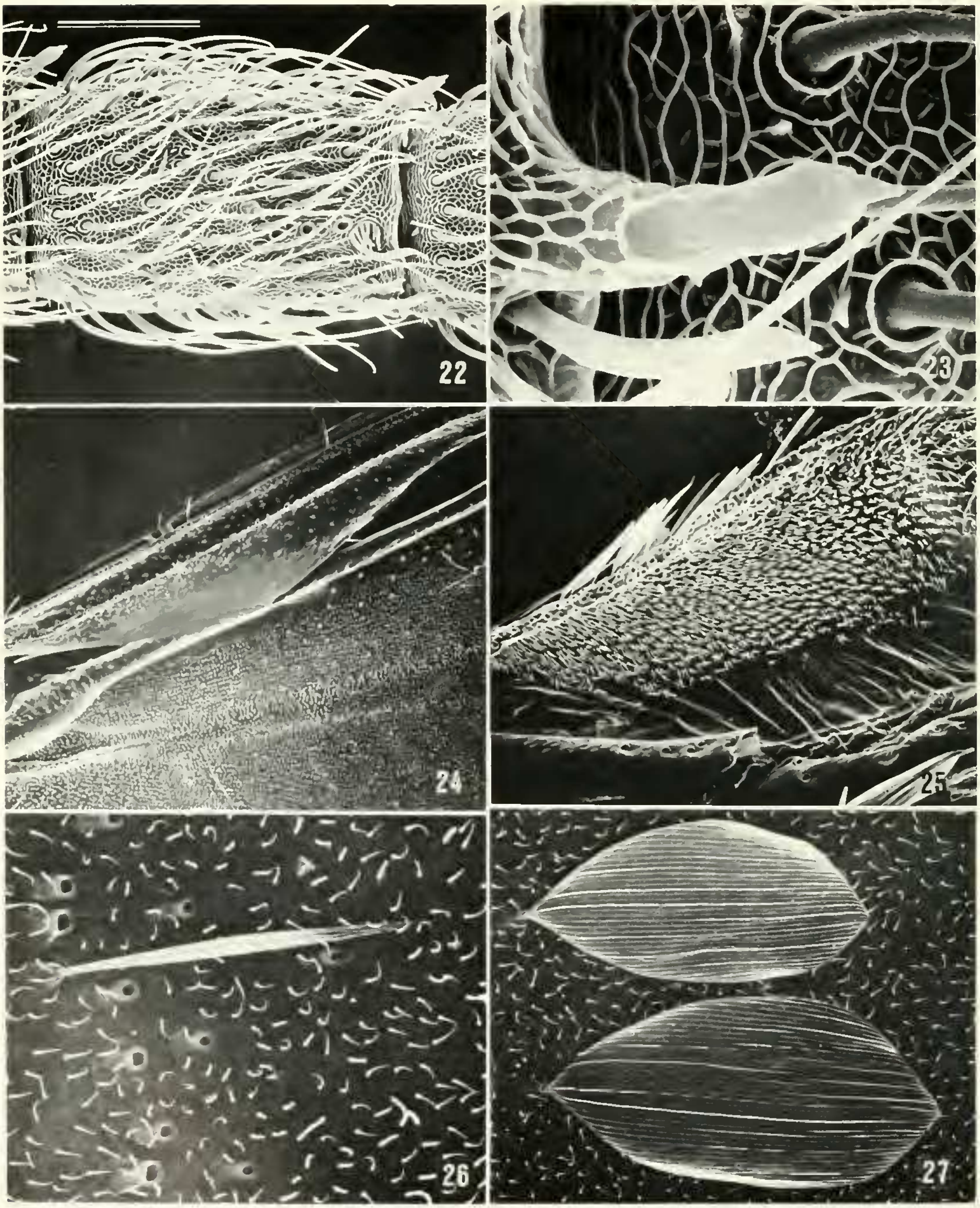
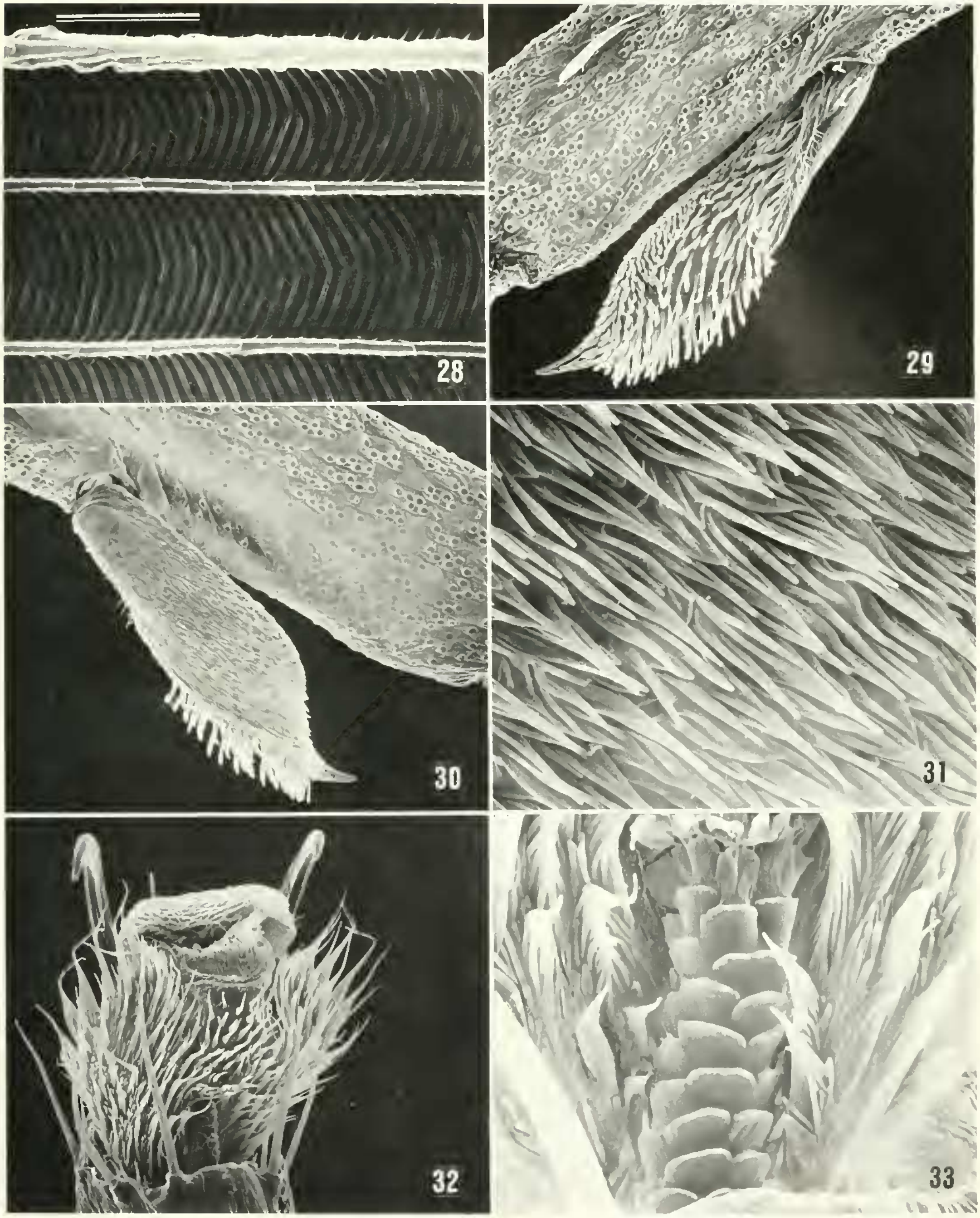
Figs. 13–15. Lateral view of heads. 13, *Crepidochares colombiae* n. sp. 14, *Crepidochares subtigrina* Meyrick, right side, antenna removed. 15, Left side of Fig. 14, note antennal "eyecap."



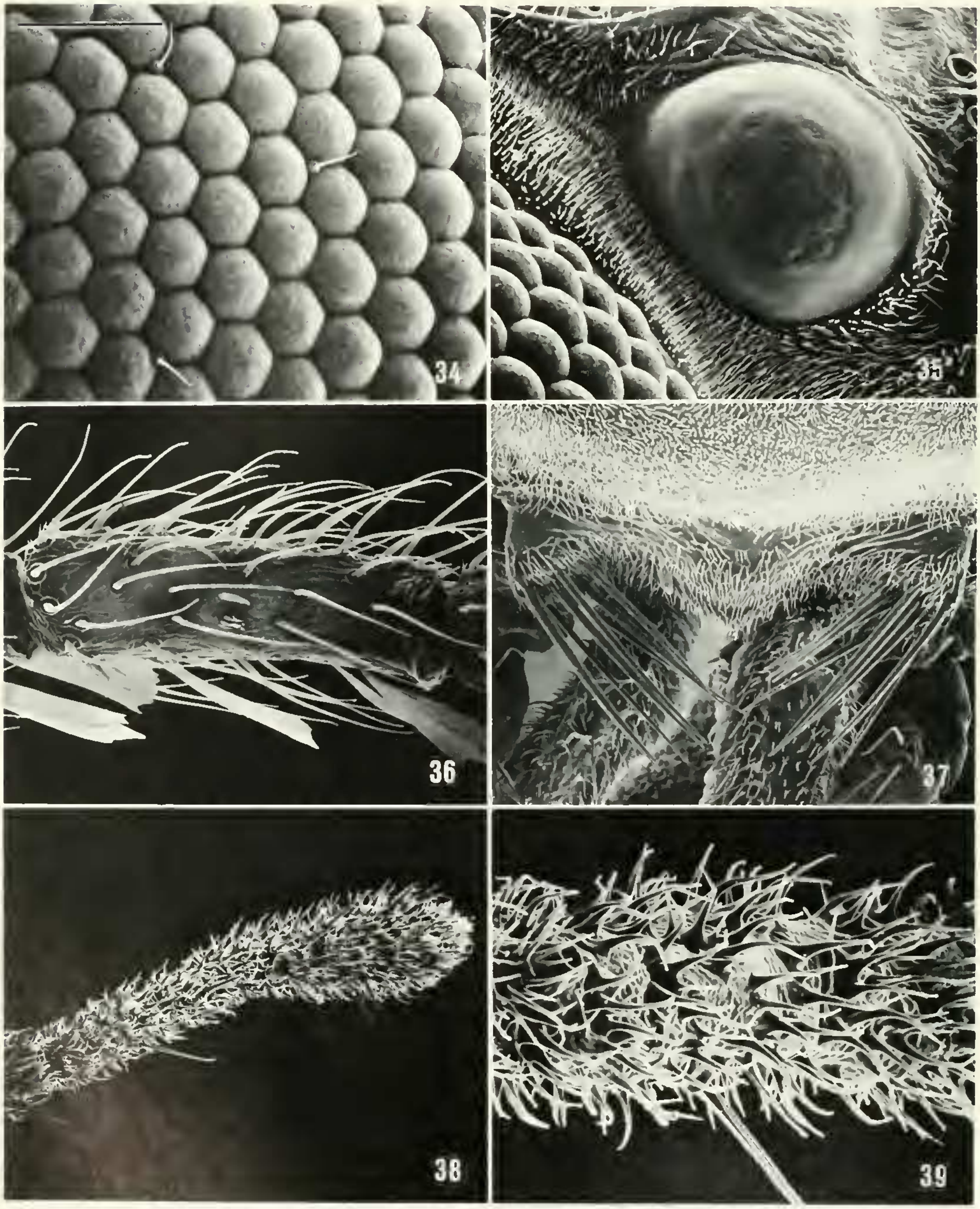
Figs. 16–21. Head structure. 16, *Crepidochares neblinae* n. sp., anterior view (0.5 mm). 17, Maxilla of Fig. 16 (0.2 mm). 18, *Crepidochares aridula* n. sp., anterior view (0.5 mm). 19, Maxilla of Fig. 18 (0.2 mm). 20, *Compsoctena thwaitesii* (Walsingham), anterior view (0.5 mm). 21, Maxilla of Fig. 20 (0.2 mm). (Scale lengths in parentheses.)



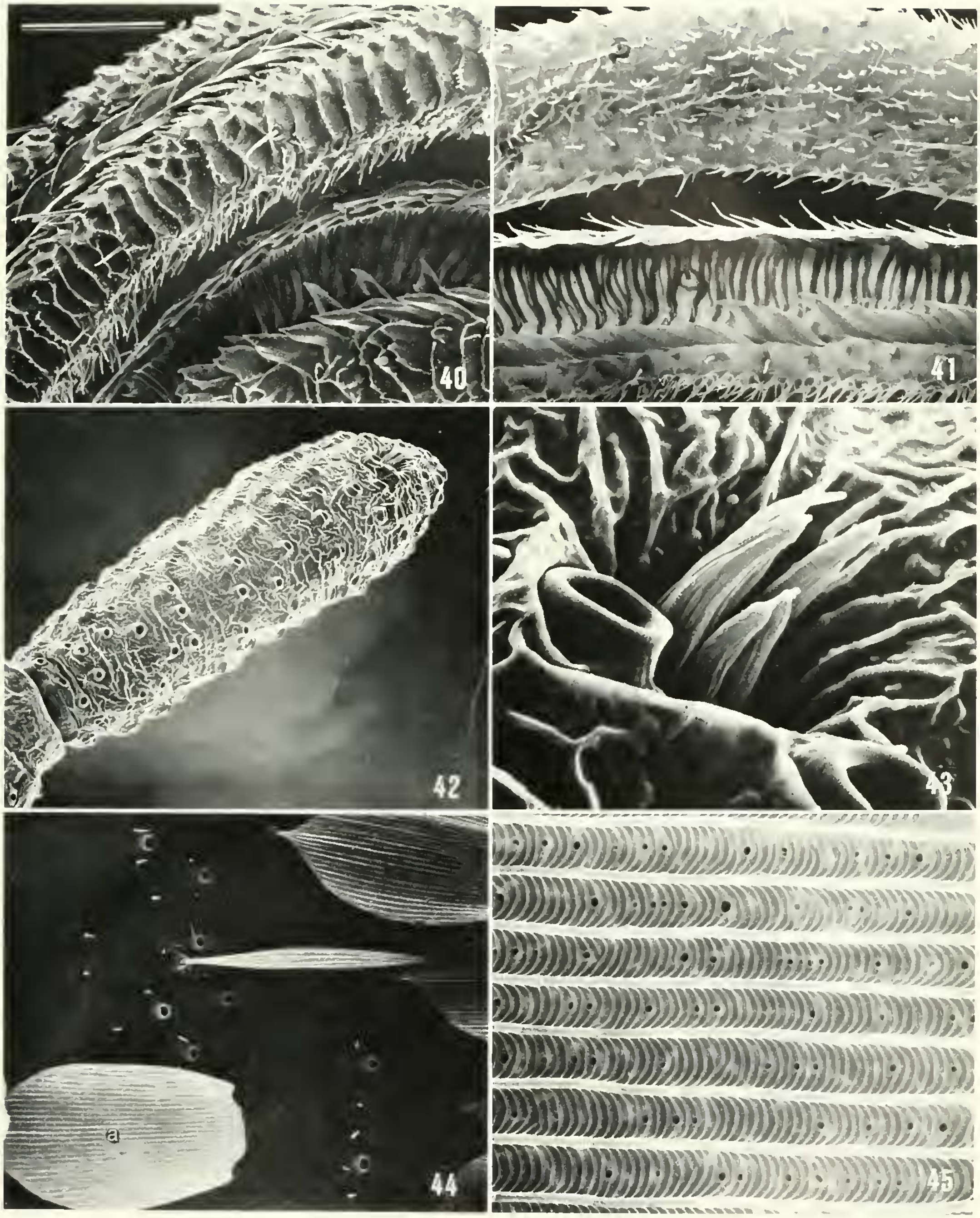
Figs. 22–27. *Crepidochares neblinae* n. sp. 22, Tenth antennal segment, lateral view (43 μm). 23, Mid dorsal antennal process, dorsal view of Fig. 22 (7.5 μm). 24, Subcostal retinaculum, male, ventral forewing (0.3 mm). 25, Subhumeral microtrichia zone, ventral forewing (86 mm). 26, Microtrichia of dorsal forewing, subcostal area (30 μm). 27, Dorsal hindwing, basal half (60 μm); note scale ridge dimorphism. (Scale lengths in parentheses; bar scale for all photographs = Fig. 22.)



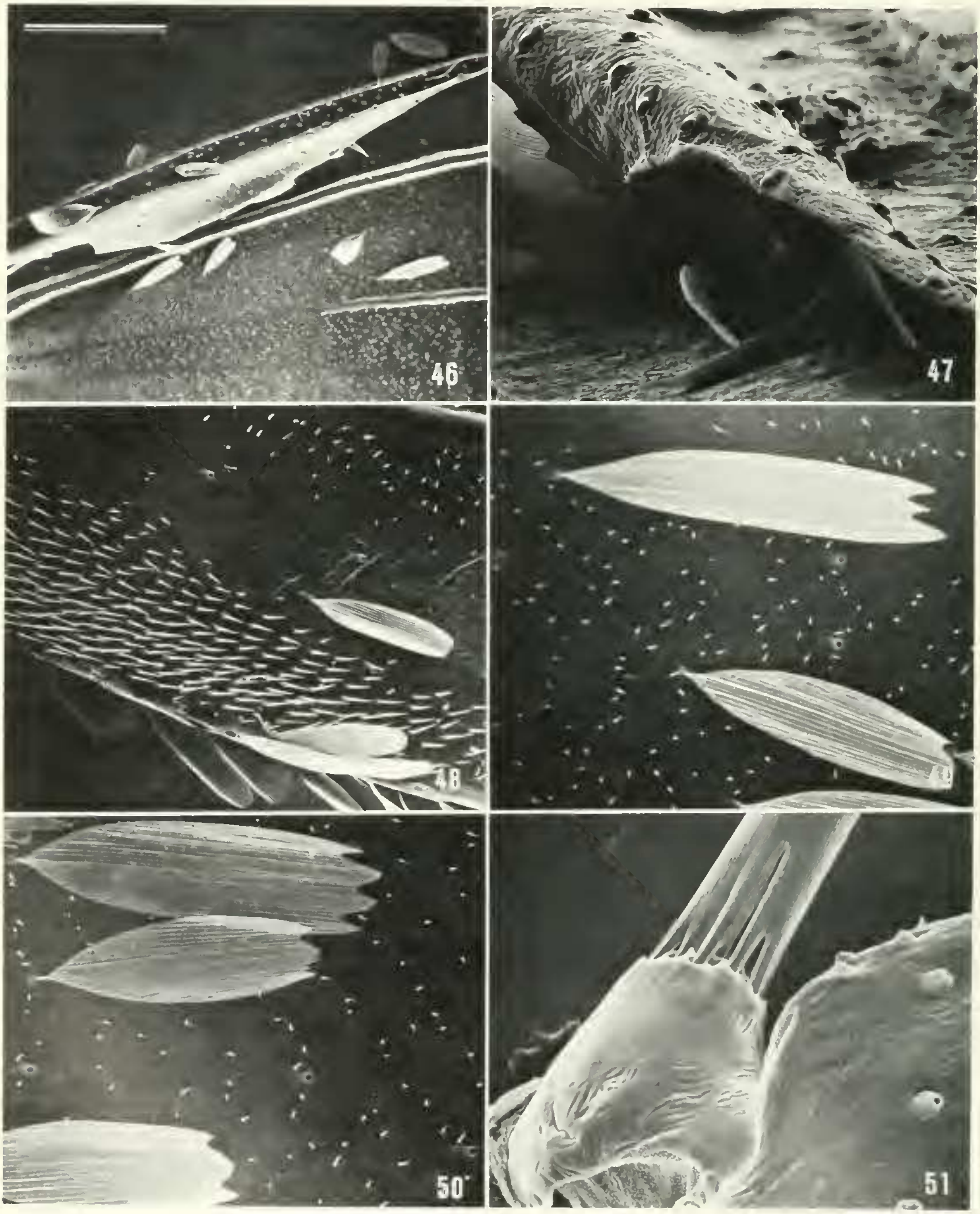
Figs. 28–33. *Crepidochares neblinae* n. sp. 28, Scale structure of "a" in Fig. 27 (2 μm). 29, Inner (ventral) view of epiphysis (75 μm). 30, Outer (dorsal) view of epiphysis (75 μm). 31, Surface detail of Fig. 30 (7.5 μm). 32, Pretarsus of foreleg, ventral view (30 μm). 33, Detail of unguitractor plate in Fig. 32 (7.5 μm). (Scale lengths in parentheses; bar scale for all photographs = Fig. 28.)



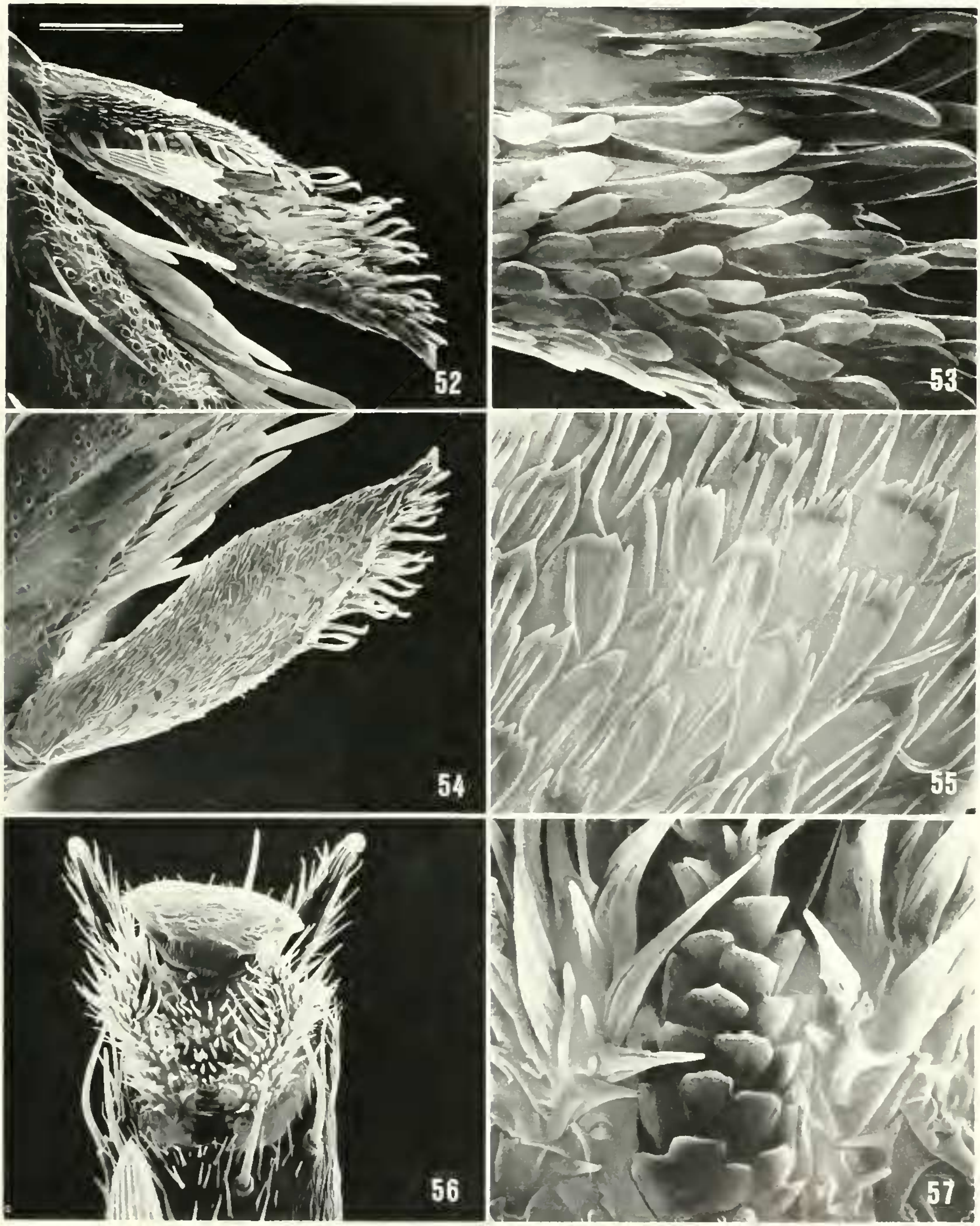
Figs. 34–39. *Crepidochares aridula* n. sp., head structure. 34, Interfacetal setae of compound eye (30 μm). 35, Ocellus (30 μm). 36, Flagellar segment with numerous sensilla trichodea and two sensilla coeloconica (38 μm). 37, Labrum with pilifers (50 μm). 38, Apical (fifth) segment of maxillary palpus (43 μm). 39, Detail of Fig. 38 showing dense cuticular spines (12 μm). (Scale lengths in parentheses; bar scale for all photographs = Fig. 34.)



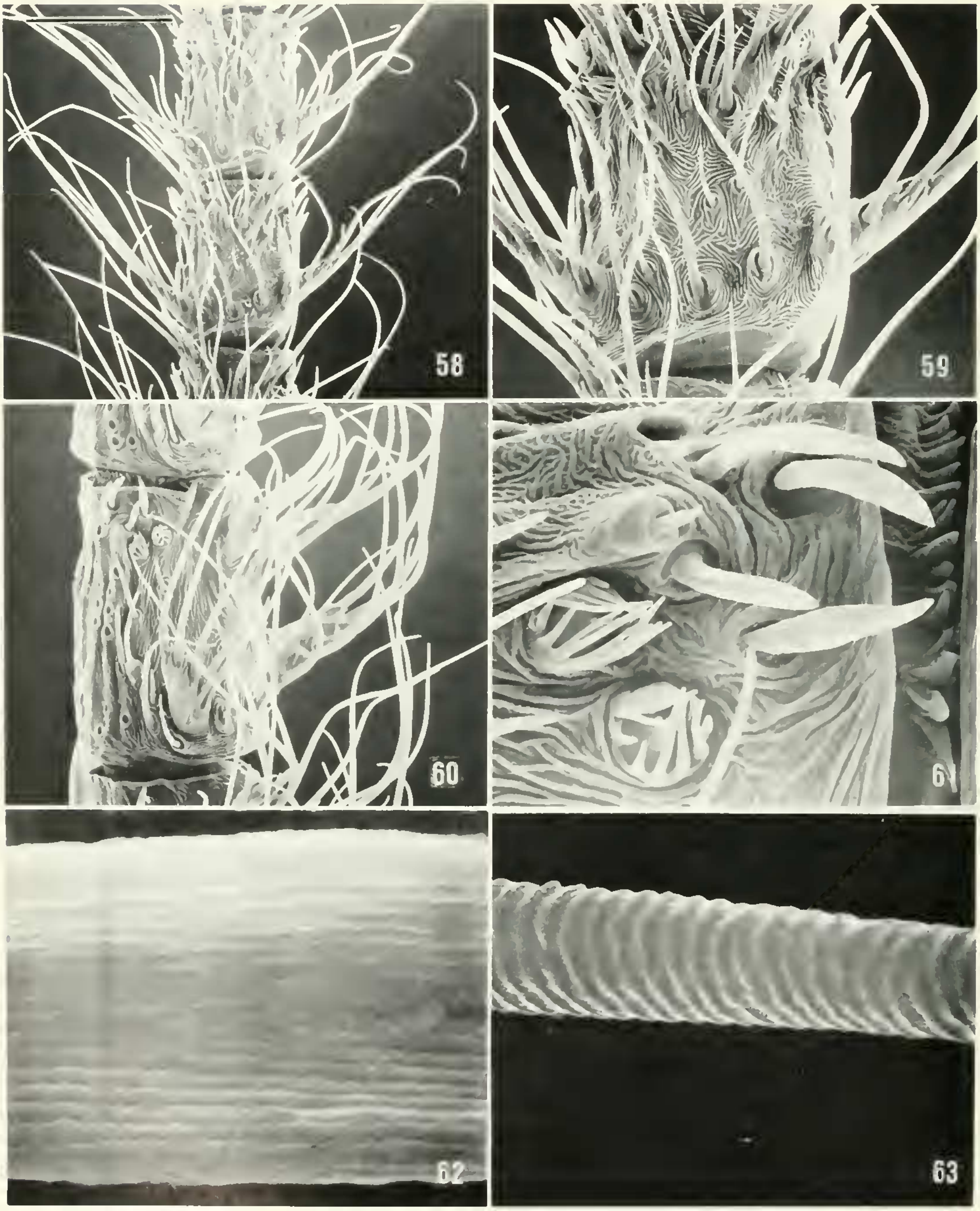
Figs. 40–45. *Crepidochares aridula* n. sp., head and scale structure. 40, Haustellum near base showing imbricate plates (30 μm). 41, Haustellum near middle (and distad) showing external cuticle and food canal (30 μm). 42, Apical (third) segment of labial palpus with subapical sensory pit (50 μm). 43, Detail of sensilla in labial sensory pit (5 μm). 44, Wing scales and microtrichia, discal cell area of dorsal forewing (38 μm). 45, Scale structure of "a" in Fig. 44 (3 μm). (Scale lengths in parentheses; bar scale for all photographs = Fig. 40.)



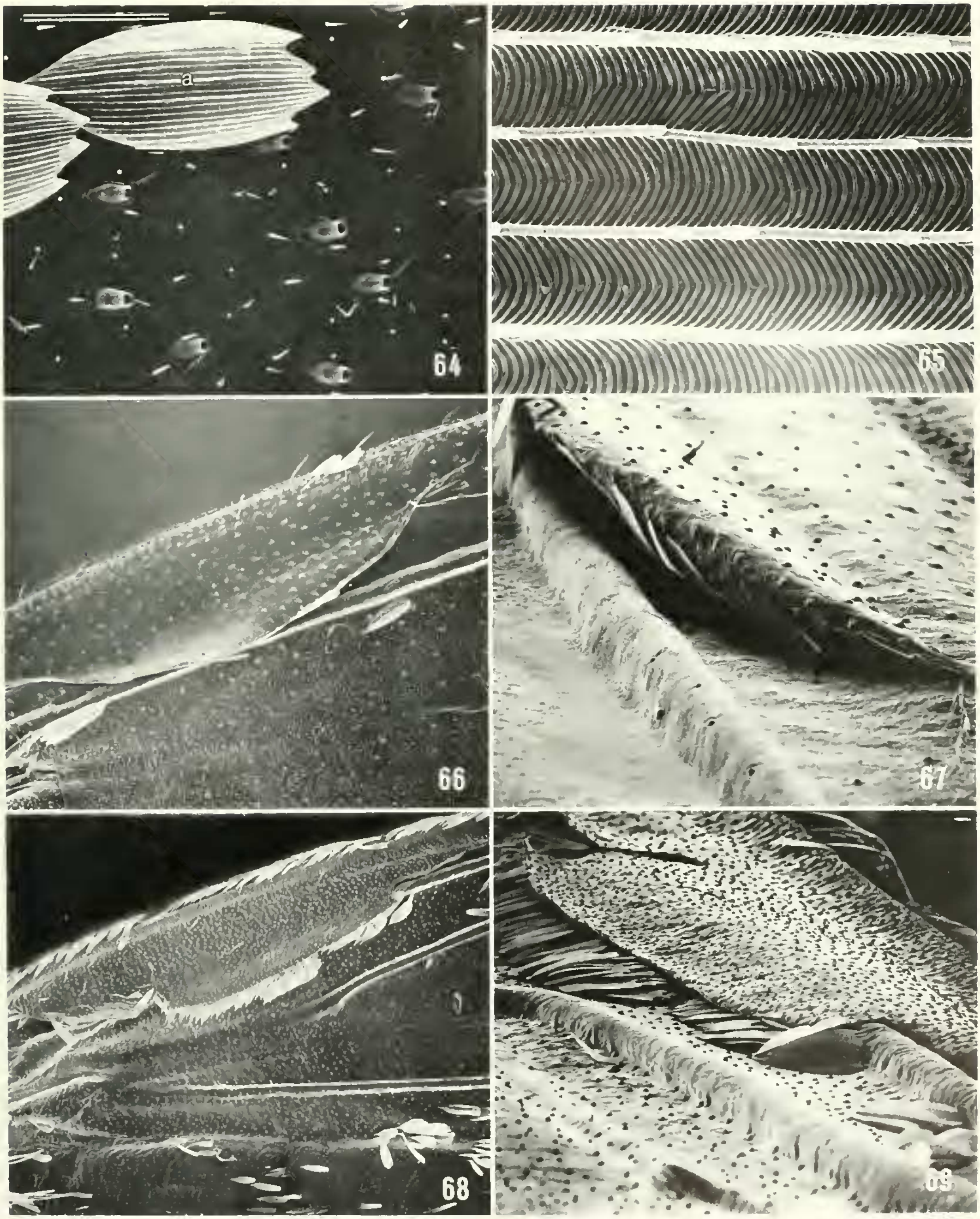
Figs. 46–51. *Crepidochares aridula* n. sp., wing structure. 46, Subcostal retinaculum, male, ventral forewing (231 μm). 47, Distal view of male retinaculum (Fig. 46) (30 μm). 48, Anal margin of ventral forewing showing interlocking microtrichia and general wing microtrichia (75 μm). 49, Wing scales and microtrichia of discal cell area of ventral forewing (50 μm). 50, Scales and microtrichia near apex of discal cell of dorsal hindwing (50 μm). 51, Base of male frenulum (38 μm). (Scale lengths in parentheses; bar scale for all photographs = Fig. 46.)



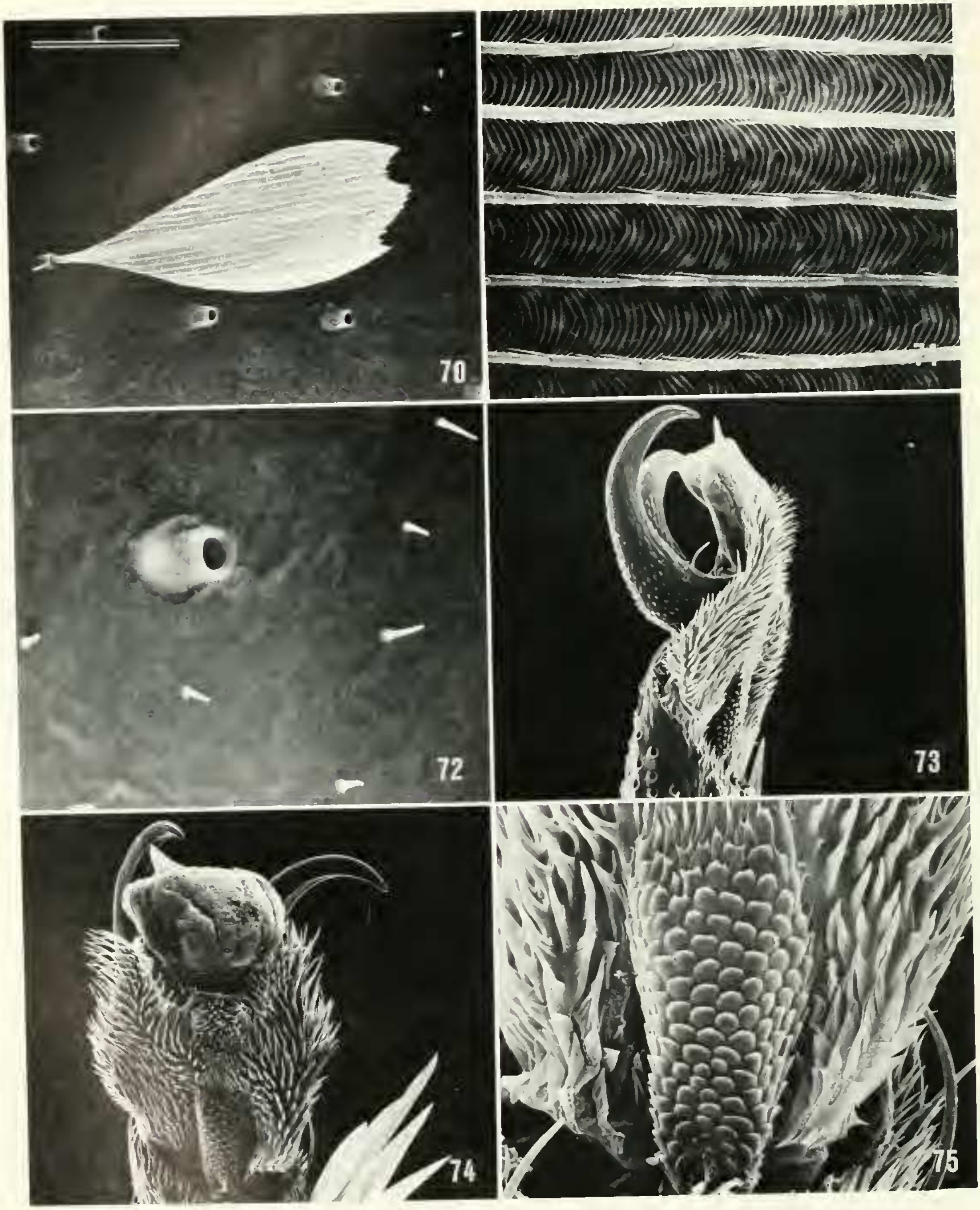
Figs. 52–57. *Crepidochares aridula* n. sp., male leg structure. 52, Epiphysis, posterior view (50 μm). 53, Detail of Fig. 52 showing cleaning spines (i.e., pecten) (12 μm). 54, Epiphysis, anterior view (50 μm). 55, Detail of imbricated spines of Fig. 54 (10 μm). 56, Foreleg pretarsus, ventral view (23.1 μm). 57, Detail of pretarsal unguitractor plate of foreleg (5 μm). (Scale lengths in parentheses; bar scale for all photographs = Fig. 52.)



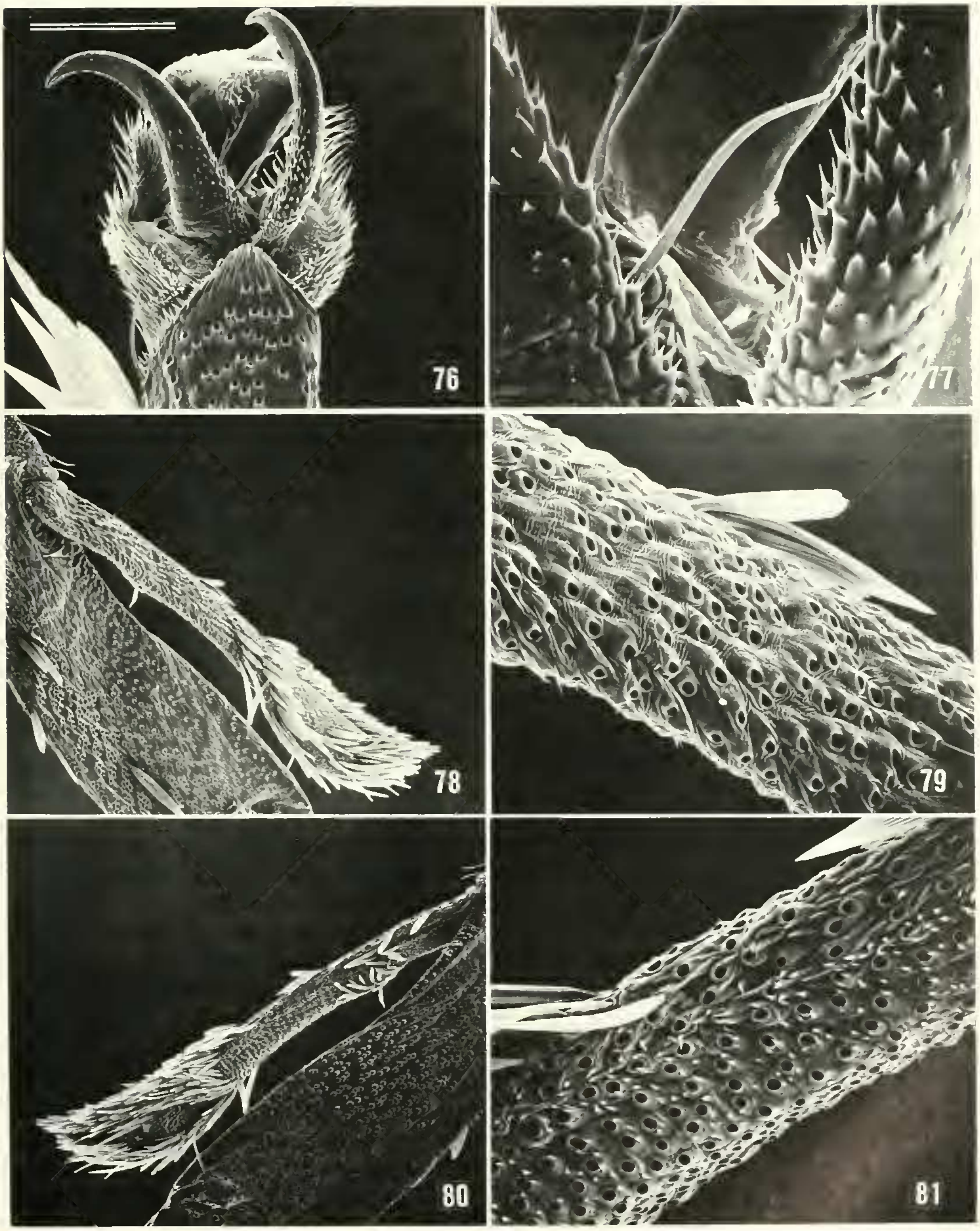
Figs. 58–63. *Crepidochares subtigrina* Meyrick, antennal structure. 58, Segments 7–8, ventral view (86 μm). 59, Detail of seventh segment, Fig. 58 (38 μm). 60, Lateral view of seventh segment (50 μm). 61, Detail of sensilla trichodea and coeloconica in Fig. 60 (10 μm). 62, Surface detail of sensilla trichodea (a) in Fig. 61 (1 μm). 63, Detail of elongate sensilla chaetica from ventral tubercle, seventh segment (1.5 μm). (Scale lengths in parentheses; bar scale for all photographs = Fig. 58.)



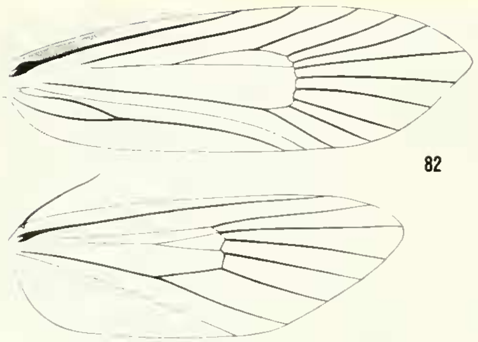
Figs. 64–69. *Eriocottidae*, wing structure. 64, *Eriocottis fuscanella* Zeller, wing scales and microtrichia on ventral forewing near middle of discal cell (43 μm). 65, Detail of scale "a" in Fig. 64 (3 μm). 66, Subcostal retinaculum of male, ventral forewing (0.3 mm). 67, Distal-lateral view of retinaculum (Fig. 66) (75 μm). 68, *Compsoctena thwaitesii* (Walsingham), subcostal retinaculum of male (1.0 mm). 69, Distal-lateral view of retinaculum (Fig. 68) (0.27 mm). (Scale lengths in parentheses; bar scale for all photographs = Fig. 64.)



Figs. 70–75. *Compsoctena thwaitesii* (Walsingham), male wing and leg structure. 70, Wing scale and microtrichia near dorsal apex of forewing (50 μm). 71, Detail of scale in Fig. 70 (3.8 μm). 72, Detail of microtrichia in Fig. 70 (20 μm). 73, Foreleg pretarsus, lateral view (100 μm). 74, Foreleg pretarsus, ventral view (100 μm). 75, Hindleg pretarsus, detail of unguitractor plate (30 μm). (Scale lengths in parentheses; bar scale for all photographs = Fig. 70.)



Figs. 76–81. *Compsoctena thwaitesii* (Walsingham), male foreleg structure. 76, Pretarsus, dorsal view (100 μm). 77, Detail of Fig. 76 showing pseudempodial seta (23.1 μm). 78, Epiphysis, posterior view (0.27 mm). 79, Surface detail of Fig. 78 (50 μm). 80, Anterior view of Fig. 78 (0.27 mm). 81, Surface detail of Fig. 80 (50 μm). (Scale lengths in parentheses; bar scale for all photographs = Fig. 76.)



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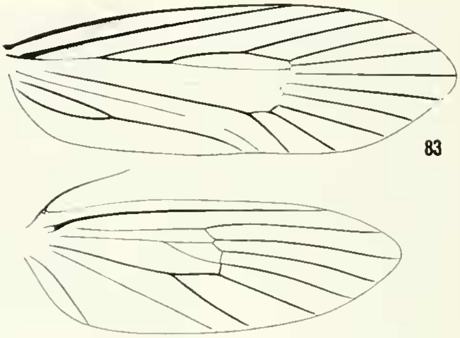

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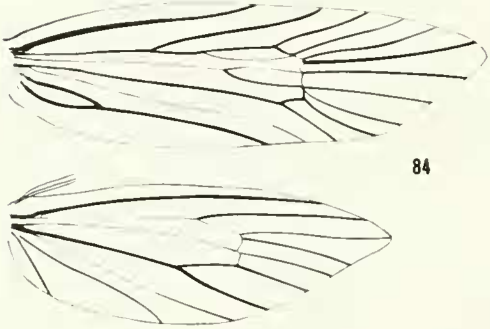

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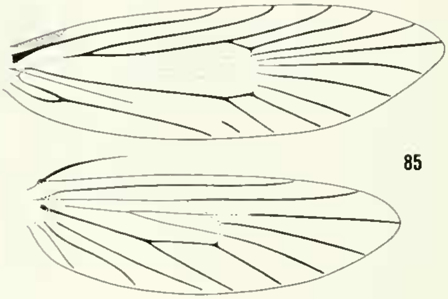

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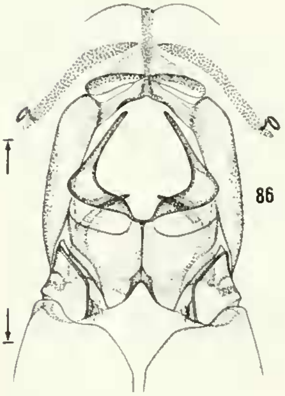

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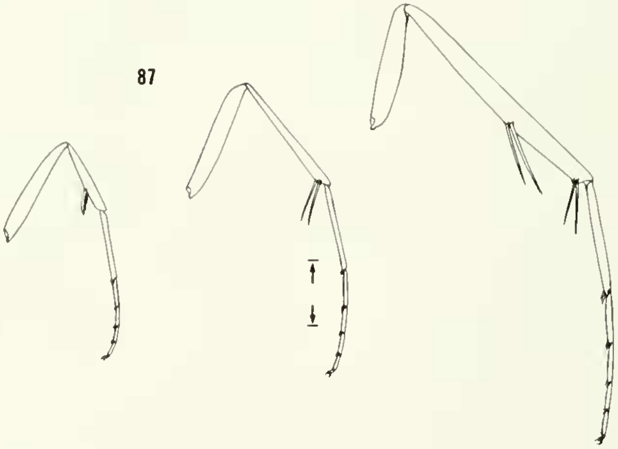

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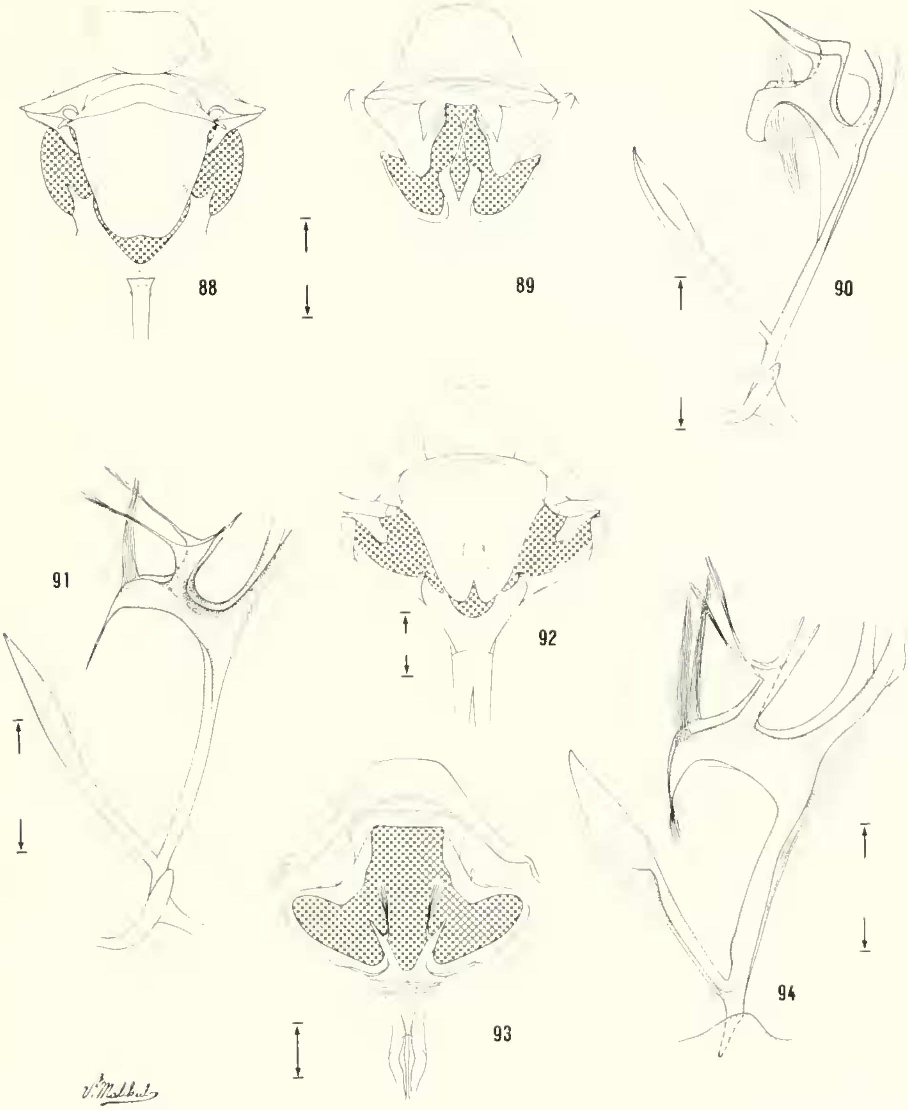
Figs. 82–87. Eriocottidae, thoracic structure. 82, Wing venation, *Crepidochares neblinae* n. sp. 83, Wing venation, *Crepidochares subtigrina* Meyrick. 84, Wing venation, *Crepidochares austrina* n. sp. 85, Wing venation, *Crepidochares aridula* n. sp., 86, Prothorax, *Crepidochares aridula* n. sp., anterior view (0.25 mm). 87, Leg structure (0.5 mm). (Scale lengths in parentheses.)



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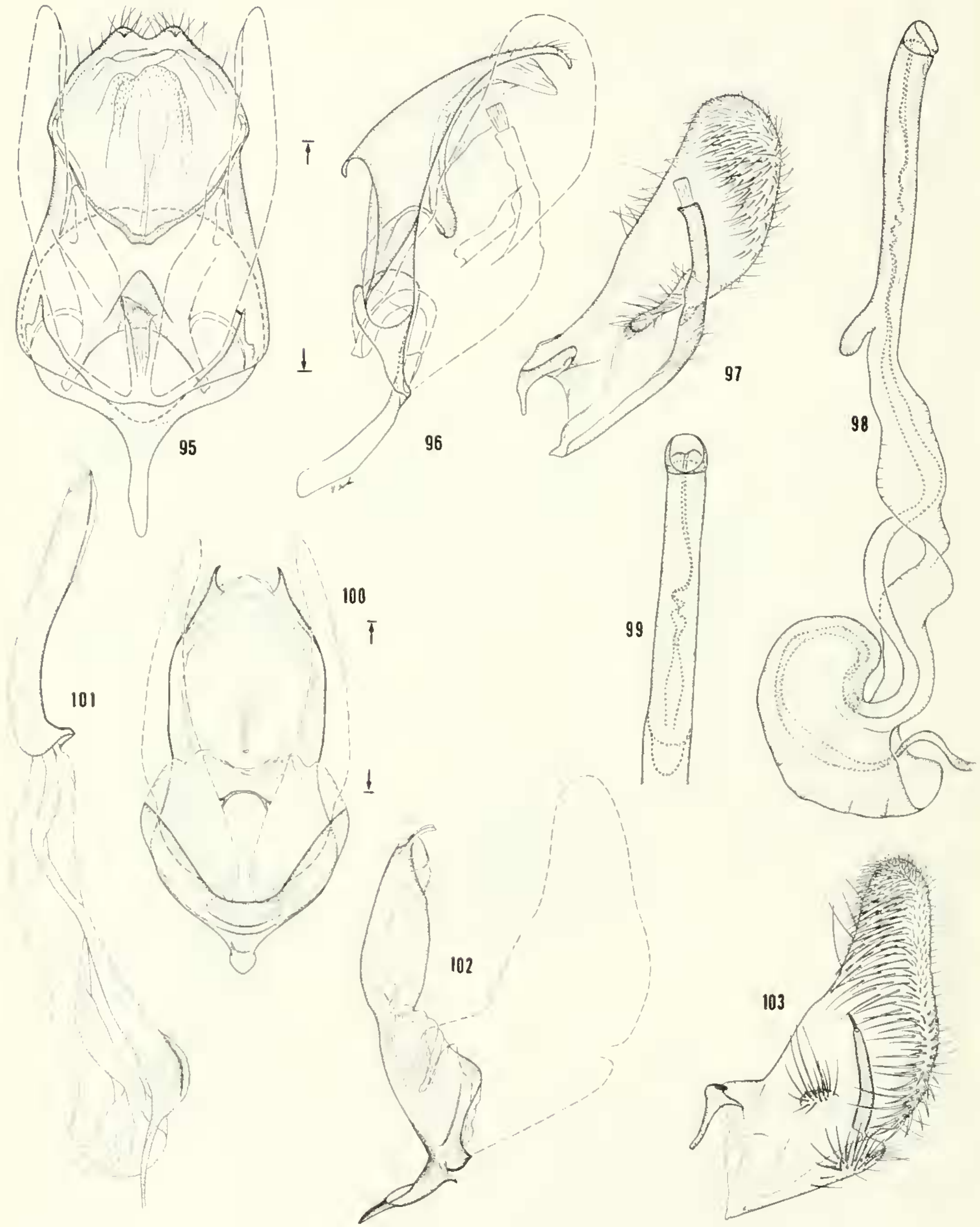

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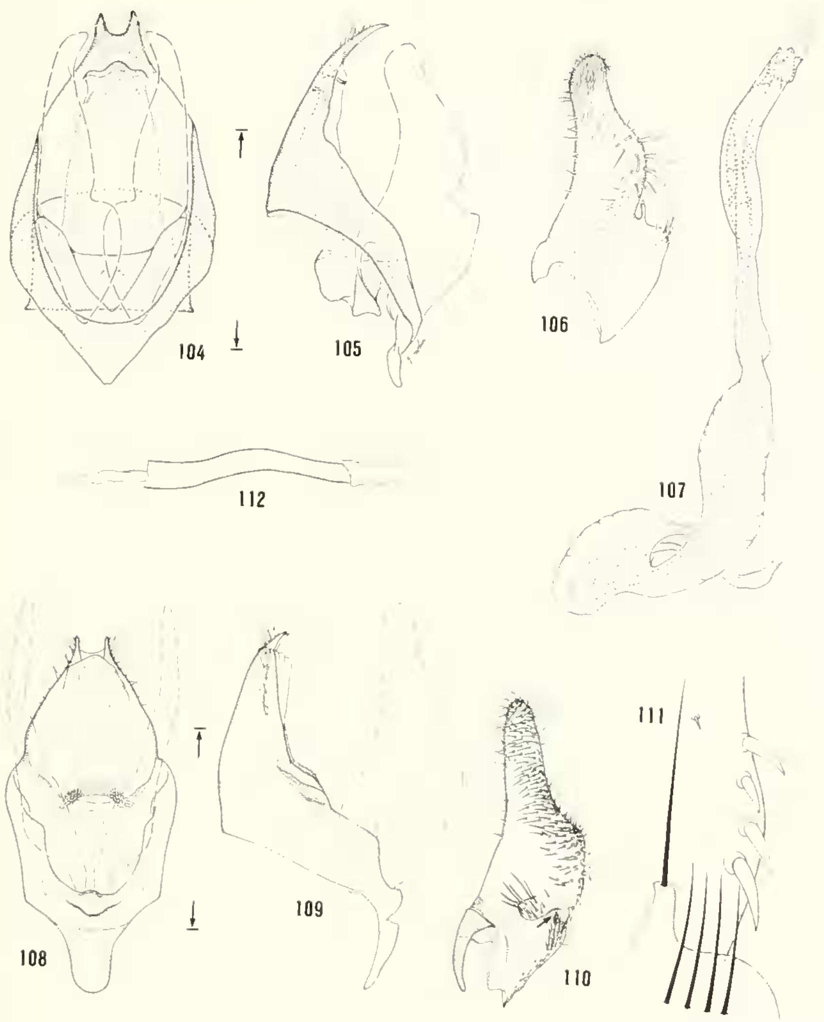

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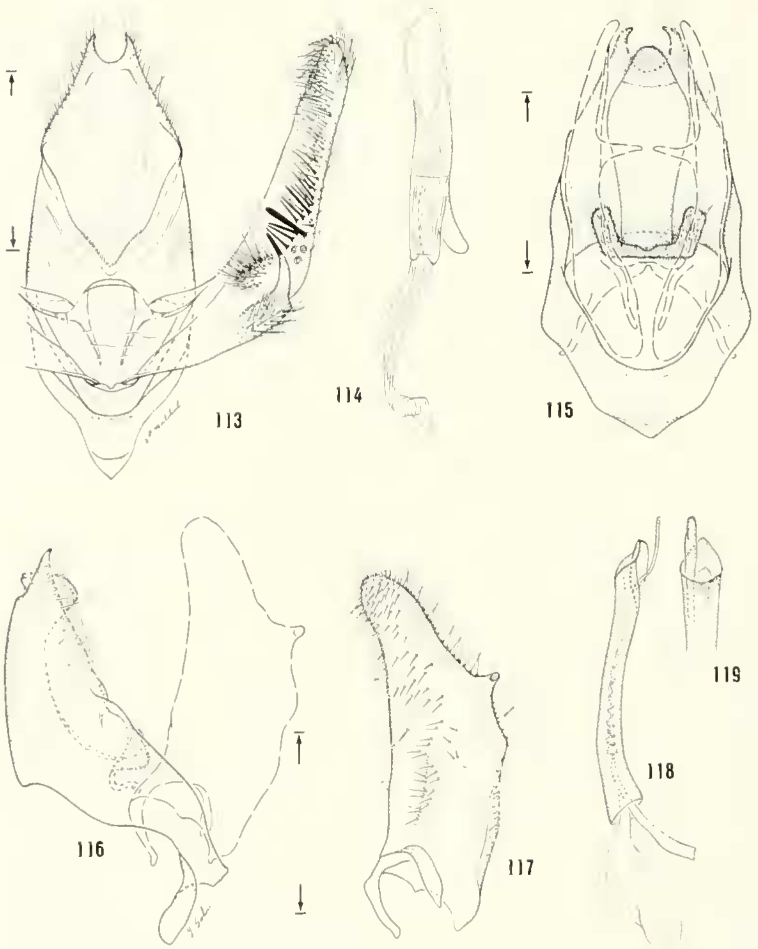

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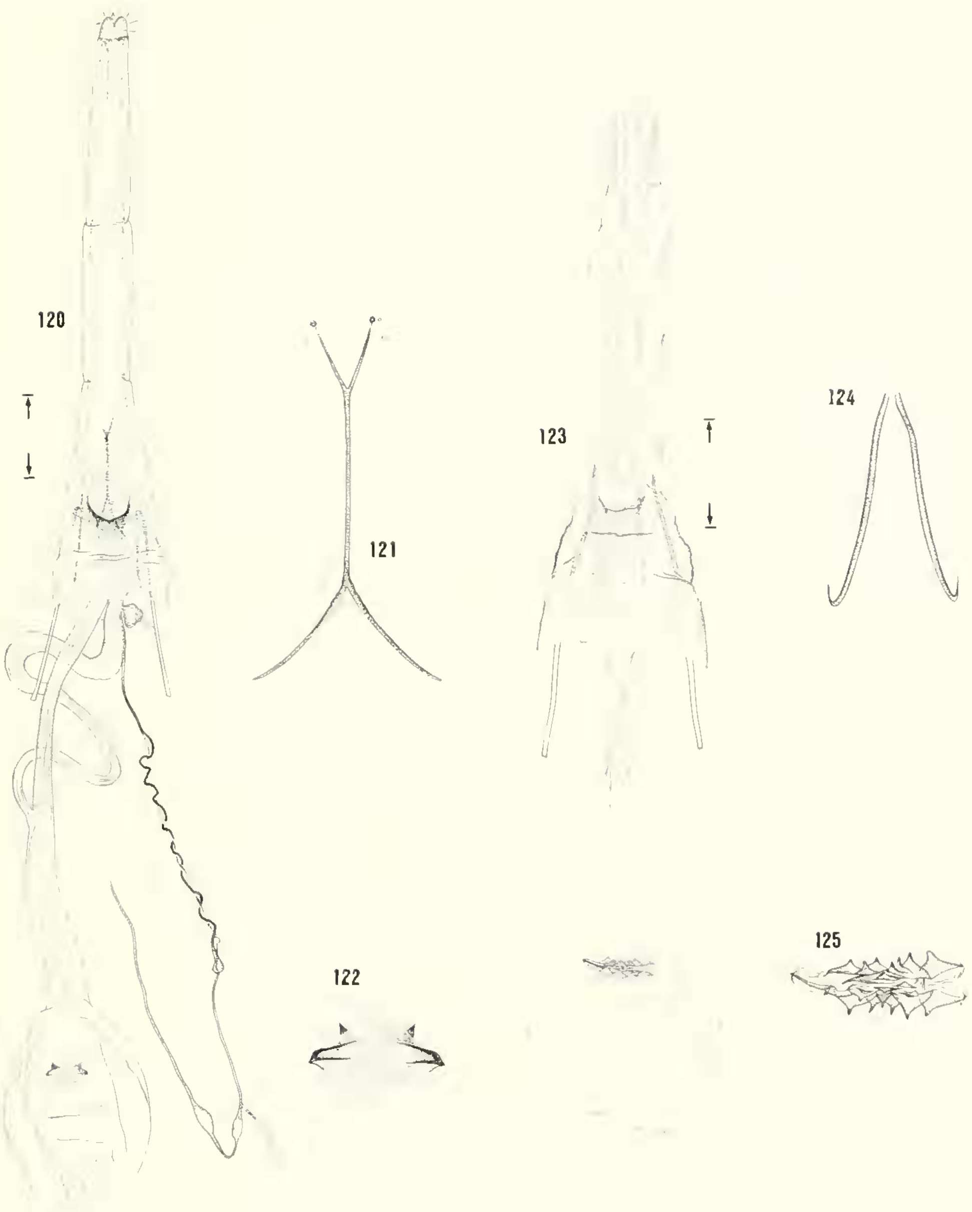
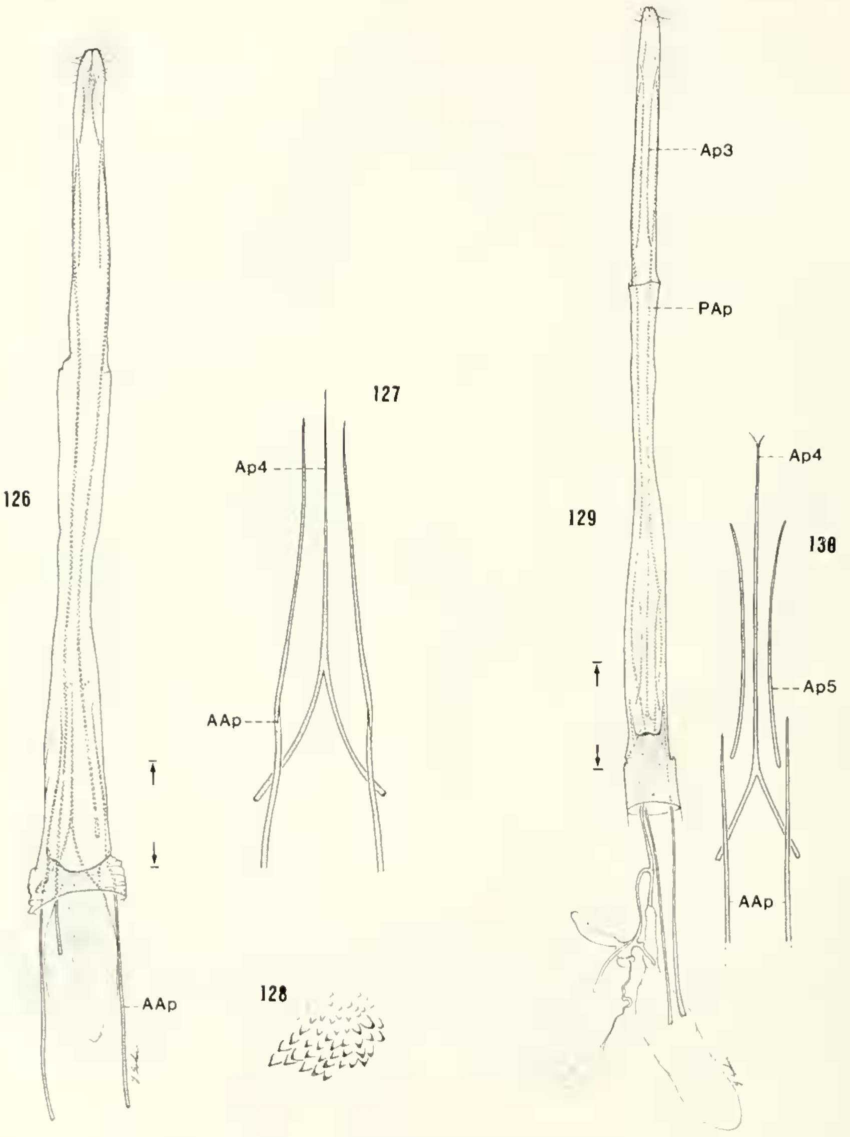


Figs. 120–125. *Crepidochares, female genitalia. 120, Crepidochares neblinae* n. sp., ventral view (0.5 mm). 121, Detail of fourth pair of apophyses. 122, Signum. 123, *Crepidochares colombiae* n. sp., ventral view (0.5 mm). 124, Detail of fourth pair of apophyses. 125, Signum. (Scale lengths in parentheses.)



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